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Missouri Medicine

Journal of the Missouri State Medical Association January 1986

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INSIDE: Making Progress on Malpractice

"Rabbit Run"
James Fisher

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Missouri Medicine

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MSMA Progress Notes

Tort reform is at top of MSMA agenda, but it's not alone

With the MSMA firmly committed to push through major tort reform legislation in this year's General Assembly (see related story on page 20), it will be important for all MSMA members to remember that there will be other medical-related bills introduced during the Session that will have to be closely monitored as well.

It is expected to be a busy Session for the medical association. In addition to the push for new laws to combat the current medical malpractice crisis, the MSMA will also be devoting much of its efforts pushing for additional funding under the Medicaid program to increase the physician reimbursement fee schedule.

A number of other bills related to medicine already have surfaced in the General Assembly. Among them:

■ A bill which would permit optometrists to use therapeutic drugs. Optometrists are currently permitted to use diagnostic drugs in Missouri and 44 other states. Optometrists are permitted to use therapeutic drugs in six states. MSMA is opposed to the bill.

■ A bill which would recognize *lay* midwives. This issue has received much support from around the state. Supporters of the bill argue that lay midwives can deliver babies less expensively. They also argue that more women are wanting to have home deliveries and obstetricians/gynecologists don't want to do home deliveries due to the high risk of malpractice. The MSMA is opposed to the bill.

■ A bill to provide for direct reimbursement by third party payors to RNs for nurses performing services independently of physicians.

■ A bill to gain licensure for physician assistants. MSMA opposes this bill.

■ A bill to require hospitals to notify the family of a potential organ donor of the method for contributing in the case of the patient's death.

To be effective in representing medicine's view in the legislature, the MSMA needs your help. It will be a critical year for medicine in the Capitol as legislators' votes will determine how physicians will practice medicine in Missouri. Unless MSMA members speak up now — on tort reform, the Medicaid fee schedule, lay midwives, and licensing physician assistants — decisions may be made detrimental to the best interest of Missouri patients and physicians.

Get involved. Be a Key Contact for your state legislator or senator. Write "Key Contact," MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Here's how to get involved in MSMA's tort reform efforts

The MSMA's push for the reform of malpractice laws offers many opportunities for physician involvement, including testifying at hearings, calling or writing legislators, and attending meetings and rallies.

Now in its second year, the Physician Involvement Program (PIP) gives physicians yet another chance to get involved in this critical year with the Missouri General Assembly.

PIP takes only a day of your time. The reward is a better understanding of the political process and new, personal relationships with your state legislators. In addition, you'll have the satisfaction of knowing you did your part in helping to solve Missouri's malpractice crisis.

As a PIP participant, you will receive a short briefing at MSMA headquarters on the Wednesday morning when you visit. Next, you'll walk one block to the Capitol to meet with your legislators. (You may want to call ahead to let them know you'll be there.) There will be ample opportunity to view the General Assembly at work and even take your senator or representative to lunch.

Throughout the visit, you will be able to talk over the issues with the lawmakers, one-on-one. In a year when malpractice laws will be uppermost on the MSMA agenda, your influence and your presence can be most important.

For more information about becoming a PIP participant, please contact PIP at MSMA headquarters, 113 Madison Street, P.O. Box 1028, Jefferson City, MO 65102. ■

Medicine applauds legislators, bends ears on malpractice

Legislative appreciation dinners held in state senatorial districts across the state this fall and winter attracted more than three-fourths of the members of the Missouri General Assembly.

A total of 26 of Missouri's 35 state senators and 125 of 163 state representatives attended the 22 dinners, which were sponsored by the MSMA, the Missouri Hospital Association and the Missouri Association of Osteopathic Physicians and Surgeons.

Approximately 1,500 physicians, hospital administrators, trustees and others joined their respective legislators at the dinners to express their appreciation for past assistance and to point out the medical community's concern over the current medical malpractice insurance crisis.

Following each reception and dinner, a slide show outlining some of the professional liability problems was shown. Reaction to the program by legislators generally was good and encouraging. ■

Scam of the Month

The Lady with Breast Cancer Scam

The scam has been found to run in the rural areas around St. Louis by an organized drug dealing ring based in Jefferson County. The scam uses a woman from St. Louis who, apparently, really does have cancer.

The woman will show up at a physician's office and present her case for treatment ("Dilaudid is the only drug that will give me relief."). She will tell the physician she is staying with her daughter in a town some distance from where the physician is located. The daughter accompanies her and also requests medication (often Demerol) for migrane headaches.

In this particular case, a check of the drivers license uncovered the fact that the daughter was using a false name and address. The woman involved in this scam had been seeing as many as five to seven physicians on a rotating basis.

Physicians are cautioned to be alert to patients who are unknown to them; demonstrate behavior associated with drug abuse, who have insufficient identification or who otherwise behave suspiciously. A request for positive identification and/or a telephone call or two can be an effective deterrent. ■

AIDS Update for Missouri

The Missouri Department of Health had confirmed 73 cases of Acquired Immune Deficiency Syndrome (AIDS) since the first case in Missouri was reported in 1982. In its publication, *Missouri Epidemiologist*, the Department of Health cites 40 deaths from this total of 73 cases. In addition to the cases reported, 18 suspected cases were pending diagnosis.

Eleven screening sites for HTLV-III virus antibody testing are currently being sponsored by the Missouri Department of Health. The sites, which began testing in June 1985, provide alternate locations where high-risk individuals may be tested to encourage them not to offer to donate blood but simply to be tested.

As of Oct. 18, 1985, 668 individuals had been tested and 146 were positive. The screening period for HTLV-III virus antibody testing has been extended from the scheduled ending date of Oct. 22, 1985, through April 30, 1986. ■

After 39 years, Eddie Hirsch retires

Longtime Buchanan County Medical Society Executive Director Edward M. "Eddie" Hirsch retired Dec. 31, 1985, after 39 years of service to the medical society.

A new executive director has assumed Eddie's position, but not his place in the hearts and minds of those he served so long. As for Eddie, he's a firm believer in progress and he's busy now planning to further his own education at the local college and doing volunteer work.

Thanks for everything, Eddie. ■

Dr. Singleton president-elect of AAOA

Marvin A. Singleton, M.D., MSMA councilor from the Eighth District, was elected president-elect of the American Academy of Otolaryngologic Allergy at its Annual Meeting in Atlanta, Georgia, in October.

Dr. Singleton is currently a member of the governing council of the 1,400-member Academy, as well as a member of the AAOA's Executive Committee. ■

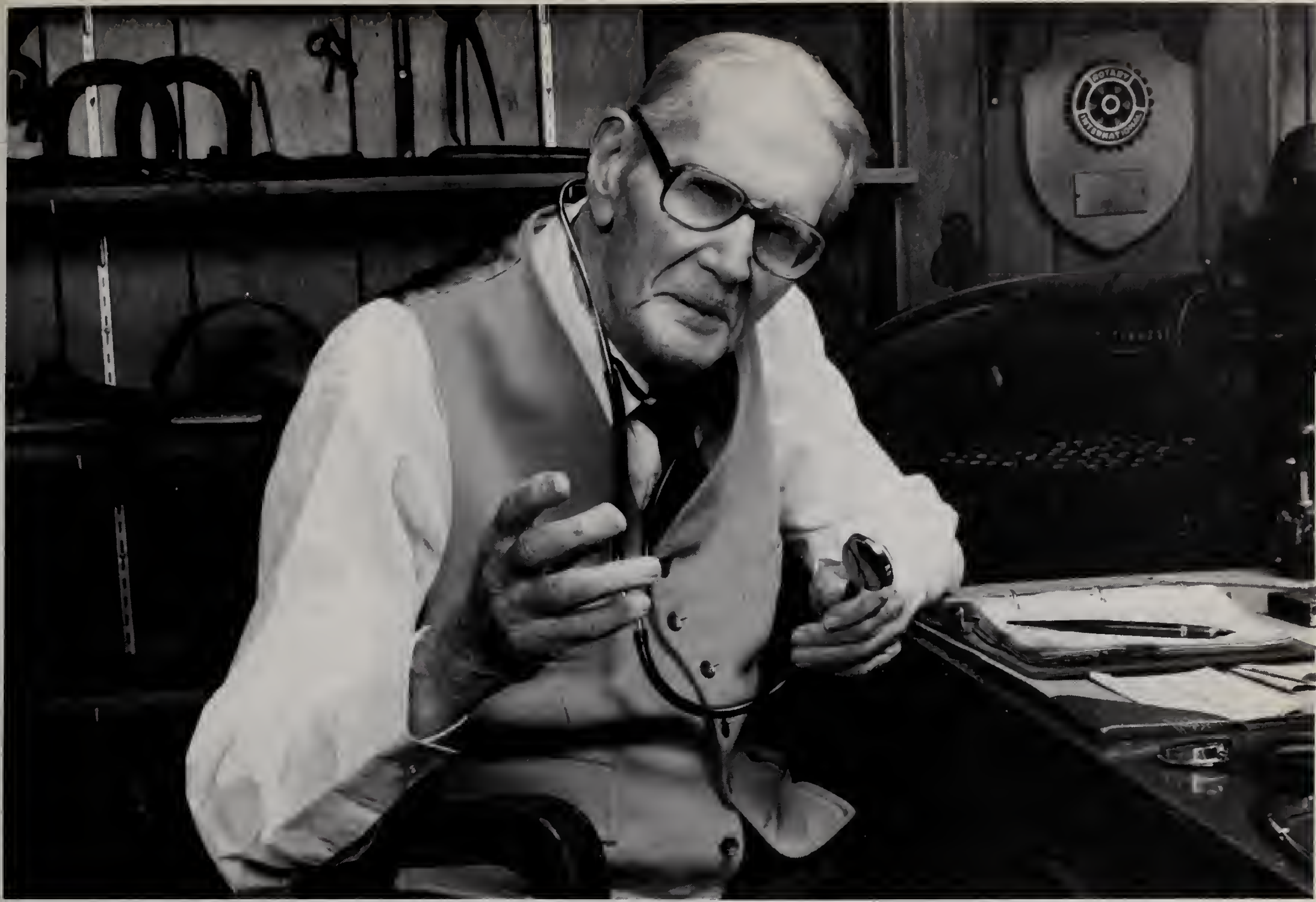
George Thoma, MD, reappointed to LCME

George E. Thoma, M.D., vice president for St. Louis University Medical Center, has been reappointed by the AMA's Board of Trustees to the Liaison Committee on Medical Education (LCME). Dr. Thoma also was reappointed as a member of the LCME executive committee to serve on the Accreditation Task Force. ■

Roger L. Mell, MD, elected chairman of SMA Council

Roger L. Mell, M.D., an MSMA member and orthopaedic surgeon from Chesterfield, was installed as Chairman of the Council of the Southern Medical Association (SMA) at its 79th Annual Scientific Assembly in November.

A graduate of Washington University School of Medicine, Dr. Mell took his general surgery training at Barnes and St. Luke's Hospitals in St. Louis and his orthopaedic surgery training at Barnes and Allied Hospitals. ■



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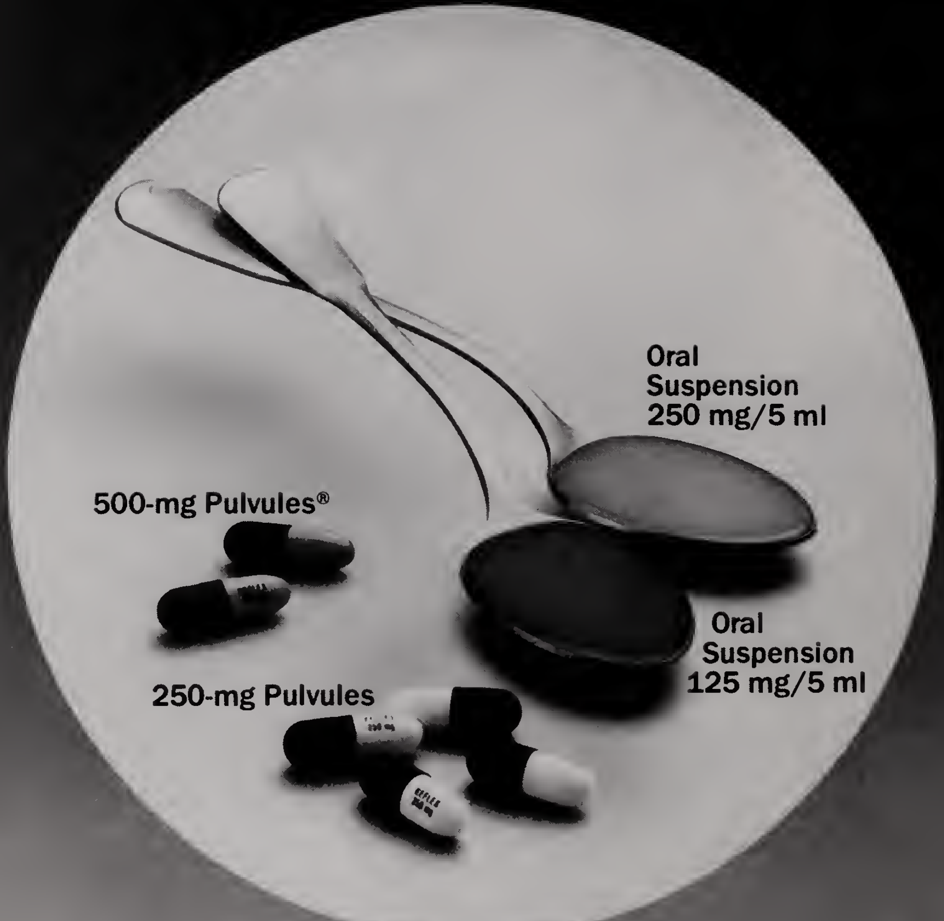

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Letters to the Editor

Law enforcement agencies should crack down on "professional patients," not doctors

Dear Dr. Burkey,

I am writing about your article in the MSMA *Progress Notes* in the November 1985 issue about paraplegics using handicaps to illegally obtain drugs.

I was in family practice in Nixa, Missouri, from 1979 to 1982. In 1981, a patient began appearing in our office. This was the patient referred to in your article as a "professional patient" in Springfield, Missouri.

This patient had medical records and his physical exam was consistent with history of paraplegia, and, except for requests for Dilaudid, there was nothing unusual about other prescription medication requests.

We checked and found him to be enrolled in a local (Springfield) college. We saw grade cards and talked with college personnel. When we requested and received information from Washington, D.C., that he may be wanted for drug-related charges, we immediately informed the Christian County Sheriff, the Nixa Police Department and the Greene County (Springfield) Sheriff's Department. We had him "arrested" at our office after a pharmacist notified us that he was attempting to fill a Dilaudid prescription in another small town.

Neither the Nixa police or either county sheriff's department made any effort to check out and/or detain this man. And, although the Missouri Board of Narcotics and Dangerous Drugs was "notified" by the Christian County Sheriff's Department, no effort was made to take this person off the streets. Instead, the result was stepped-up efforts to prosecute and discipline physicians.

Law "enforcement" and DEA have been disgustingly neglectful in their responsibility to provide information to pharmacies and doctors as well as in their duty to prosecute these "professional patients."

James A. Conroy, M.D.
St. Joseph

Seven-day response time depends upon the usually undependable mail service

Dear Dr. Burkey,

I am enclosing a copy of a letter that I recently dispatched to Congressman Gene Taylor regarding the seven-day reply to denials of PRO cases.

Things being what they are, I should have a reply by Christmas. My letter read as follows:

In light of some of the adverse criticisms of the DRG and PRO programs that are being vividly portrayed in the news media, I would like to address your attention to the following items (postmarked letters) that clearly demonstrate the role of the bureaucrat in some of these problems.

The first item, a letter from the Missouri Patient Care Review Foundation, clearly delineates that, as a physician, I have seven days to respond to a PRO letter of denial. The next two items, my letters to them which have gone unacknowledged, illustrate how they reciprocate in kind.

You will note my original letter of question was dated Sept. 9, 1985. The next item (the letter's postmark) illustrates the fact that the U. S. Postal Service required 31 days to carry my letter from Branson, Missouri, to Springfield, Missouri, a distance of some 44 miles. Another 11 days were required to transfer my question to the seat of all learning and wisdom in Jefferson City, Missouri. To date, my colleagues and I await an answer to what would seem to be a rather simplistic question, "Do the PRO sanctions apply only to those physicians who have directly signed up to accept assignment from Medicare, or do they apply to all physicians who may benefit from Medicare funds either directly or indirectly?"

It is indeed unfortunate that some of the people who make and enforce the rules and regulations are so reluctant to respond in kind.

John E. Byrne, M.D.
Branson

Dr. Akhter explains decision to return to the "seven day rule"

The following letter was received in response to a letter from Dr. Edwin J. Masters, Sikeston, which appeared in our November "Letters to the Editor's" column ("Seven days to respond to PRO denial is both capricious and unreasonable," Vol. 82, No. 11).

Dear Dr. Masters:

Thank you for your letter expressing concern with the recent reduction in response time to a pending denial from 15 to seven days. I can understand your concern and would like to take this opportunity to explain the reason for the change in more detail.

■ Letters

As you may recall, seven days was the response time frame for a pending denial when the PRO program started in Missouri on August 1, 1984, and this time period continued throughout the first eight months of operation. In an attempt to help avoid issuance of final denials in cases where additional information allowed a pending denial to be reversed, the response time was increased last April to 15 days. At the time, the HCFA Regional Office was critical of the increase because of the potential impact on timely review as required by our contract. No other PRO in the country had a pending denial period as long. Nevertheless, we made the procedural change.

During subsequent monitoring visits by the Regional Office, we were found to have an unacceptable level of outstanding reviews. Our contract generally requires that review of a case be completed within 45 days of the time the paid claim is identified to us by the Medicare fiscal intermediary. Under the best of circumstances, this places us under considerable pressure to complete the reviews in a timely manner; and conduct of timely review is a major consideration of HCFA in evaluation of PRO performance.

Based on HCFA's monitoring reports, we felt we had to reconsider the matter, which was taken to the Foundation Board at its last meeting on August 24. The Board reviewed the issue at length and voted to return to a seven-day pending denial period. I would add that the seven-day period, unlike the previous 15-day time frame, is based on postmark. In effect, we are talking about a 10-day pending period in comparison with the former 15. In addition, if a physician phones the appropriate regional office within the seven days to notify of additional information, the case will be held several days beyond the deadline until the information is received.

I hope this clarification is helpful.

Sincerely,
Mohammad N. Akhter, M.D.
Executive Vice President and Medical Director,
Missouri Patient Care Review Foundation

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Is the best diagnosis an early retirement?

Both economic and ego factors may influence a doctor to keep working well past the usually accepted retirement age.

This is a headline story which came out of Ontario last year: *PHYSICIAN BOARD BACKS MONITORING OF MDs OVER 80.*

One may let it pass as just another instance of government control, but there are potential patient care problems involved. Just as the general population is living longer, so are the physicians in that population. The same story told of a sample study which indicated that there were more medical record and performance problems among the over-70 physician population. Both economic and ego factors may influence a doctor to keep working well past the usually accepted retirement age. In Missouri, 9% of physicians in active practice are over 65 years of age.

Quitting medicine is, of course, the alternative to practicing in older age, but when should that occur? Do a physician's best friends have to tell the doctor that it is time to put down the scapel, the stethoscope, and the prescription pad? Relatives have been known to finally lock the door on old dad's office and throw away the key to bring the matter to a halt. The formation of a Hospital Geriatric Physician Quality Performance Assessment Review Committee (HGPQPARC) almost can be foreseen.

Retirement lies chronologically somewhere between the classic two sure things in life — taxes and death. When and if a physician quits, it is undoubtedly best for him to make a clean break from the medical community; younger doctors tire quickly of hearing from the oldsters how it was "back in the good old days." Of course, there's money to be made in retirement — not particularly by the retirees, however. First, one must obviously go off to the AMA or elsewhere and take a several hundred dollar course in retiring, supporting the general assumption that doctors are inherently incapable, without outside help, of performing any non-medical function, including stopping being a doctor. Real estate agents are standing in line to sell to the retirees spots on the gold coast, in the sun belt or anywhere else that can be made to look attractive. Travel agents have all the Grand Tours and Glorious Cruises ready for those golden year-customers who are often too old to obtain much benefit from them.

There is much to applaud when a physician beats the odds and receives his 50-year practice pin. But perhaps some sort of award should be given to the doctor who can look at himself, size up his practice habits, consider some less-than-perfect results he may have been having, and decide to stop — whether at age 60 or 70 or 80. If the physician cannot make an important clinical decision like this, who can? ■

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PRESIDENT'S PAGE

by Walter German, M.D.

Between now and April all doctors must familiarize themselves with this proposal and be ready to come to a decision when asked to vote in April.

MSMA to decide on establishing an IPA

During the past few months, the executive committee of MSMA has been meeting together and holding discussions concerning the possibility of the Missouri State Medical Association forming and sponsoring a statewide independent practice association (IPA).

This IPA would be physician-owned and physician-controlled. It would reimburse doctors on a fee for service basis and would offer patients free access to all physicians.

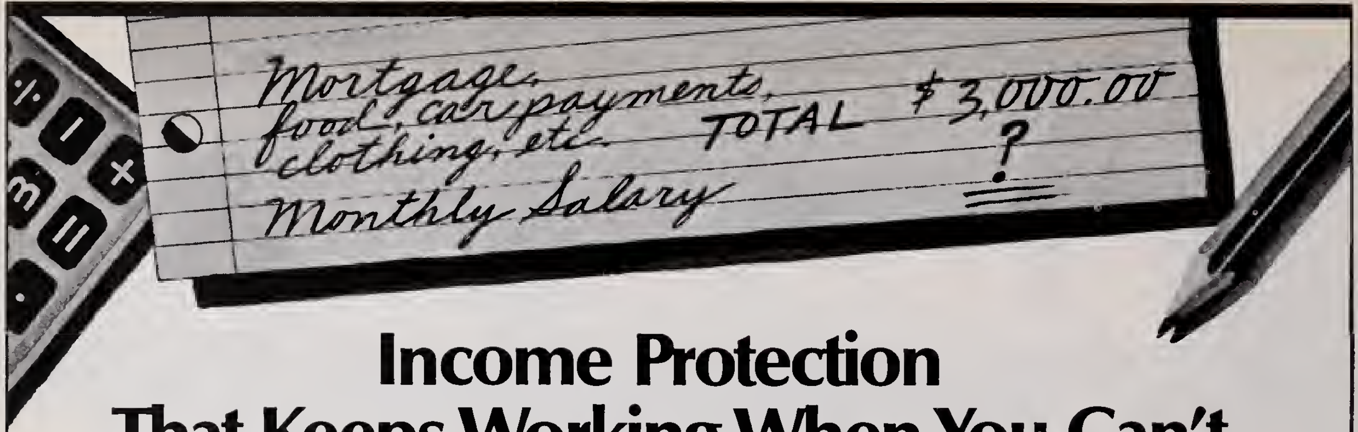
A statewide IPA is the only way that organized medicine can regain control of the current situation. The prestige of MSMA would be somewhat jeopardized if we remained inactive to all of this change in delivery of health care. Prepaid plans such as this would save cost by preadmission certification, utilization review, and pharmacy control. And the major purchasers of health care, the government and businesses, insist that cost be lowered. Limitation of services, which is the basis for prepaid health plans, have shown no increase in physician liability. This has been shown in the case of Medicare patients utilizing DRGs and increased outpatient surgery. This statewide plan would be organized as an arm-length relationship with the MSMA, just as MOMEDICO now exists.

On the negative side of the coin, some arguments used against such a statewide prepaid health plan might be as follows. Development of this IPA actually would be a divisive measure and may jeopardize the credibility of MSMA — a third party under any other name is still a third party. What would such an organization as this achieve? Sponsorship by the Missouri State Medical Association would not in of itself assure automatic success, particularly in light of the marked competition. Such a statewide plan, while potentially helpful in urban areas, is not particularly needed or liked by physicians practicing in rural areas. They see no particular reason to join such an organization.

Efficiency in such an organization controlling the delivery of health care amounts to little more than rationing of health care services. Since limitation of services is essential to any prepaid health care plan, it is felt by many that such limitation would increase the physician's liability and the risk of being sued.

A statewide plan would require profession unity throughout the state and this is a difficult act to achieve. The capital needs of forming this plan could amount to $5-$6 million, which would necessarily come from member contributions. We must remember that the welfare of the patient is paramount and doctors with vested interest in health care plans developed a conflict of interest due to the for-profit status of the plan.

This issue will come before the House of Delegates in the April meeting. Between now and that time all doctors must familiarize themselves with this proposal and be willing to come to a decision when asked to vote in April. ■



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Auxiliary Message

by Chris Bohigian
President

Why not honor a fellow physician or the memory of a favorite patient with a contribution?

Medical Foundation needs your support

Abraham Lincoln once said, "The best thing about the future is that it comes one day at a time." With 1986 suddenly a reality, it almost seems that the future might be arriving a bit faster these days. It's time once again to re-think those New Year's resolutions and decide which ones are really important. The rest can wait till next year.

One resolution to make (no, it's not too late) is to support the Missouri State Medical Foundation. Since its establishment in 1960, over $2,000,000 has been contributed by Missouri physicians. More than 1,000 medical students have been the recipients of more than 2,000 loans.

Today, with decreasing monies available for education, we Missourians have the right and honor to help fellow Missourians face their future with confidence in their chosen fields.

To qualify for an MSMF loan, a student must be attending fulltime, an AMA-accredited school of medicine in the United States. He or she must be working toward a medical degree and must have successfully completed one year at the school. Students in a six-year medical school program are required to have completed the first two years of the program.

Only Missouri residents who are members of the MSMA are eligible for Foundation loans, and the decision to grant a loan rests with the MSMF Loan Committee. Loans are made on the basis of financial need, with consideration for the student's background, references, academic achievement and financial need.

Loans are made for any worthy purpose directly connected with the furtherance of the student's medical education — books, tuition, fees, equipment and living expenses. Loan recipients are not restricted from applying for additional loans.

The MSMA Auxiliary has actively supported the Foundation through the years with statewide fundraising events and individual contributions. You, too, are welcome to join this look to the future. Why not honor a fellow physician or the memory of a favorite patient with a contribution? Your New Year's resolution to support the Missouri State Medical Foundation may not slow down the future, but it will provide you the assurance that the future is in good hands. ■

The Missouri State Medical Foundation, P.O. Box 1028, Jefferson City, Missouri 65101.

What the Missouri State Medical Association is doing about MEDICAL

In a recent unprecedented negotiation session, representatives of the Missouri medical profession and the Missouri Association of Trial Attorneys (MATA) hammered out a series of proposals to present to the Missouri Senate Interim Committee on Medical Malpractice and Product Liability to address medical negligence issues. The proposals, reprinted on these pages, have been incorporated into proposed legislation for deliberation by this year's Missouri General Assembly. All parties involved in the negotiations are expected to push for passage of the legislation. If passed and signed by the Governor, Missouri's new tort reform laws could become effective as soon as August of this year.

Last fall, the Senate Interim Committee on Medical Malpractice and Product Liability requested that negotiations begin between representatives of all concerned parties to attempt to reach agreement on a package of tort reform proposals.

In the first two negotiation sessions, the MSMA, the Missouri Hospital Association, the Missouri Association of Osteopathic Physicians and Surgeons, MOMEDICO, Medical Defense Associates and two other insurance companies were widely separated from the attorneys on any possible reform package. In the final negotiation session, however, a major breakthrough occurred and the parties were able to outline an agreement acceptable to all. The agreement contains many provisions which will go far in addressing the reforms which the MSMA has advocated for many years.

Special recognition goes to MSMA members who devoted countless hours toward this successful step forward toward tort reform for all Missouri physicians: John I. Matthews, M.D., Jefferson City; Garth S. Russell, M.D., Columbia; Saul Boyarsky, M.D., St. Louis; and Larry G. Piepergerdes, Kansas City. ■

I. Cap on Awards for Non-Economic Loss

a) There would be a cap on awards for non-economic loss set at $350,000 per defendant.

b) A defendant would be defined as:
   1. a hospital and its employees who are insured exclusively under its policy of insurance or who are covered exclusively by the hospital's self-insurance program and;
   2. a physician, including his non-physician employees who are covered exclusively under his policy of insurance or who are covered exclusively by the physician's self-insurance program, and
   3. any other health care provider having the legal capacity to be sued and are not included in class 1 or 2 above; including but not limited to resident physicians and CRNA's.

c) The cap on awards for non-economic loss would *not* include any award for exemplary (punitive) damages, and punitive damages could only be awarded on a demonstration of willful and wanton behavior (not for conscious disregard).

d) The proposed limit would not be told to the jury. The judge would be required to appropriately reduce awards to the limit.

II. Cost of Living Adjustment to Caps

The limit on non-economic awards would be adjusted to reflect increased cost-of-living.

III. Itemization of Awards

To allow items I and IV to be enforced, the jury awards would be required to be itemized as follows:

a) Past economic damages
b) Future economic excluding medical
c) Future economic for medical
d) Past non-economic damages
e) Future non-economic damages

All awards are presently and would continue to be stated by the jury in present-value dollars.

MALPRACTICE

IV. Structured Awards

a) All past economic and non-economic damages would be paid at the time the decision is final.
b) At the option of either the defendant or the plaintiff, the court would structure awards for future damages (both economic and non-economic) if the total award exceeds $100,000.
c) If the plaintiff and defendant are unable to agree on a method of payment or a rate of interest for a structured award, the court would conduct a post-trial evidentiary hearing to determine the rate of interest and the method and amount of future payments.
d) At the option of the plaintiff's attorney, his fees would be paid lump sum or structured.
e) Upon the death of the plaintiff, all payments would continue except future medical damages.

V. Affidavit of Expert

Within 90 days of filing a lawsuit, unless specifically extended by the court, the plaintiff's attorney must file an affidavit stating:

a) he has a statement from a legally-qualified physician certifying there is merit to the case, and
b) why and how that physician is legally qualified to offer such opinion.

Failure to file such affidavit as prescribed would result in dismissal of the case without prejudice.

VI. Modified Joint and Several Liability

a) Joint and several liability would be changed for medical negligence litigation. The following is the concept approved:

> "each defendant shall be jointly and severally liable for the amount of the awards only as to other defendants who are of equal or lessor liability than that defendant."

b) To implement this form of joint liability, the jury would apportion fault among all the following:
   1. each person or party against whom the plaintiff's cause is submitted, and
   2. each person or party who has settled with the plaintiff.

VII. Mandatory Reporting of Limitation on Doctors' Privileges

A new statute would be drafted to require hospital boards of trustees to report to the Board of Healing Arts any disciplinary actions or restriction taken against any physician.

VIII. Temporary Suspension of License

The Board of Healing Arts would be given authority to make a temporary, immediate suspension of a physician's license. Due process would be allowed but expedited.

IX. Mandatory Review of Open Claims

The Division of Insurance should collect and submit to the Board of Healing Arts any medical negligence claim filed. The Board of Healing Arts should review and take appropriate action.

X. Mandatory Insurance

A new law should be adopted adding a requirement to physicians licensure that physicians on a hospital staff in counties over 75,000 population would carry malpractice insurance of at least $500,000.

XI. Prospective Clause

Both sides would seek an emergency clause. Legislation would affect any malpractice incidents occurring on or after date of enactment. Mandatory provisions may have a separate specified date of enactment.

XII. Severability Clause

If any sections of the legislation are found unconstitutional, remaining sections would still be in effect.

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Clinical Correlates of Starvation in Man

Thomas E. Edes, M.D.
Columbia, Missouri

Malnutrition is a common disorder among hospitalized patients. Starvation is a particularly serious form of malnutrition, with the potential for metabolic complications during its development as well as during its treatment. Repletion of malnourished patients is best accomplished when the clinician recognizes and understands the physiology of starvation and accurately assesses the patient's nutritional status.

Malnutrition is prevalent in our society and our hospitals, accounting for morbidity among medical and surgical patient populations.[1-4] Physicians are frequently faced with malnutrition, but probably recognize it far less often. With an enhanced awareness of this problem, guided by basic principles of clinical nutrition, physicians can have a great impact upon the outcome of patients with nutritional disorders.

Starvation may take various forms and have multiple causes. A consistent characteristic is a prolonged period of inadequate supply of nutrients to meet concurrent demand. Such an imbalance would result in a rapid demise were it not for adaptive mechanisms which can respond to the condition of prolonged inadequate caloric intake. In the fasting state, endogenous energy sources include glycogen from muscle and liver stores, fat from adipose tissue and protein from skeletal muscle (Table 1). Unfortunately, glycogen is limited both in its quantity, approximately 2,000 kcal in a 70 kg man, and in its availability. Utilization of glycogen is generally spared except in anoxia or vigorous exercise, both conditions of anaerobic and relatively inefficient metabolism. In the postabsorptive state, four to 16 hours postprandial, approximately half of the glucose requirements are met by dietary carbohydrates, and the other half by glycogen. In the early starvation phase, from 16 to 48 hours of fasting, up to half of the glucose requirements may come from glycogen, with the remainder derived by gluconeogenesis. After 48 hours of fasting glycogen stores are depleted.

Adipose tissue fat and skeletal muscle protein remain as the major sources of endogenous energy. Since fat is stored with very little water, 1 g of adipose tissue supplies about 8 kcal.[5] Percent body fat ranges widely from an average of 14% in males and 26% in females.[6] With 8,000 kcal per kg of adipose tissue, this is by far the greatest available energy source in most individuals.

Certain cells, notably leukocytes, erythrocytes, and cells of the central nervous system, require glucose. Glucose cannot be derived from fatty acids. Therefore, protein becomes an essential energy source

Table 1

Endogenous Metabolic Energy Sources

Substrate	*Energy per Gram Tissue*	*Stored Available Energy*	*Tissue Utilization*
Gycogen	1 kcal	Up to 2000 kcal	RBC, WBC, Nerves
Protein	1 kcal	None	
Adipose (fat)	8 kcal	Abundant	Muscle, Renal Cortex

for gluconeogenesis in starvation. Since there are no labile protein stores, protein degradation for energy derives from tissues such as skeletal muscle and the liver. Fortunately, the body has adaptive mechanisms which reduce this protein utilization to a minimum.

One phase of adaptation occurs within the nervous system, which develops the ability to use ketone bodies rather than glucose for much of its energy requirement.[7, 8] This adaptation can reduce glucose requirements by 50%. A second mechanism is the augmentation of the Cori cycle, by which pyruvate and lactate, the products of glucose metabolism by nerves and blood cells, are converted back to glucose in the liver[9] (Table 2). Energy for this process is derived from fatty acid oxidation. The net result is that oxidation of fat provides a mechanism for reducing glucose requirements by about 20%. These adaptive mechanisms occur in physiologic starvation and enable prolonged survival by greatly reducing glucose requirements, reducing protein catabolism, maintaining high normal serum lactate levels, and minimizing metabolic acidosis.[9, 10]

Presented here are two cases, each patient hospitalized for "starvation" but with different underlying mechanisms and in markedly different physiologic states.

Case Reports

Case 1: A 26-year-old woman was admitted to the University of Missouri Health Sciences Center, Columbia, for evaluation of nausea, vomiting and diarrhea. She had a 10-year history of significant alcohol abuse and during the past year had experienced a 30-lb weight loss in addition to multiple episodes of postprandial nausea and vomiting. By history, her diet was very poor with little protein intake and a large proportion of her calories derived from alcohol. Two months prior to admission she had noted the onset of a rash on the soles of her feet. This progressed to exfoliation, and similar lesions had recently been noted on her fingertips. Two days prior to admission she had the onset of watery diarrhea, dysuria, and urinary frequency and urgency. She reported a 15-lb weight loss over the past month, and had recently noted dizziness when standing, and easy bruising. On physical examination she had a supine blood pressure of 100/68 with pulse 120. Standing blood pressure was 74/60 with pulse 135. Temperature was 38.8° C, height 58 in, and weight 72 lb. She appeared to be a young cachectic female in moderate distress.

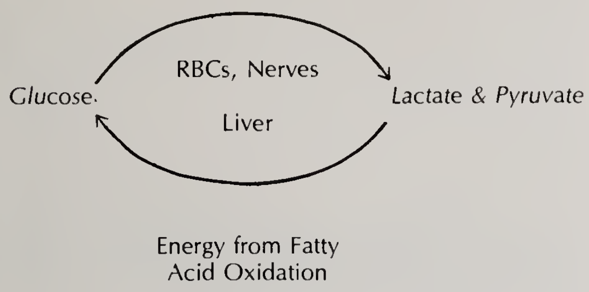
Skin examination revealed general pallor with exfoliative skin rash on the tips of her fingers and soles of her feet, as well as nummular erythematous patches on her upper extremities and trunk. There was no evidence of cheilosis, and oral mucosa appeared normal. The abdomen was scaphoid with the liver edge palpable 3 cm below the right costal margin. There was diffuse lower abdominal tenderness and costal vertebral tenderness with no guarding nor rebound. There was no perineal rash. All extremities had decreased muscle mass and there was resting and intention tremor of the upper extremities.

Laboratory findings included hemoglobin 10.8 gm/dl, hematocrit 34 ml/dl, mean corpuscular volume (MCV) 96 μm^3 with peripheral smear showing target cells, hypochromia, and anisocytosis. Serum studies included sodium 139 mEq/l, potassium 2.8 mEq/l, chloride 105 mEq/l, bicarbonate 24 mEq/l, glucose 155 mg/dl, BUN 6 mg/dl, creatinine 1.0 mg/dl, calcium 6.1 mg/dl, albumin 1.9 gm/dl, magnesium 1.2 mEq/l, inorganic phosphate 2.4 mg/dl, cholesterol 61 mg/dl, serum zinc 21 mg/dl with normal range 50-160, serum transferrin 75 mg/dl with normal range 185-400, and RBC folic acid 420 ng/ml with normal range 120-674. Urinalysis revealed numerous RBCs, WBCs and bacilli. Blood cultures were positive for *Escherichia coli.* At admission it was felt that she had significant malnutrition, manifestations of protein deficiency, zinc deficiency-acrodermatitis enteropathica and urinary tract sepsis.

During the hospital course she was placed on intravenous (IV) hydration. To avoid potential problems associated with early refeeding, she was initially provided basal requirements of protein and calories, maintaining 25-30 g of protein and 1,800 kcal per day for three days. Potassium and phosphate were supplemented and monitored daily. She was initially given 20,000 mcg of vitamin A parenterally, then 10,000 mcg daily, along with water-soluble vitamins. Repletion of zinc was done with 15 mg IV the first day, and supplemented orally thereafter. During the hospital course, her hemoglobin level dropped to 7.5 gm/dl, BUN 2 mg/dl, potassium 2.6 mEq/l, phosphate 1.3 mg/dl, and albumin 1.9 gm/dl. A 24-hour nitrogen balance study done initially revealed 1.1 g urine-urea nitrogen. Ten days after hospitalization, serum studies revealed albumin 2.8 g/dl, calcium 8.1 mg/dl, magnesium 1.4 mEq/l, phosphorus 4.6 mg/dl, potassium 5.1 mEq/l, and cholesterol 125 mg/dl. Her rash and diarrhea subsided.

Table 2

Cori Cycle



Case 2: A 53-year-old man with widely metastatic colon cancer was admitted to the Harry S Truman Veterans Hospital, Columbia, Mo., for progressive fatigue, weight loss and declining mental status. Two years previously, Dukes stage D colon cancer had been diagnosed. He had undergone partial colectomy. His weight at that time was 200 lb. There had been gradual weight loss over two years and rapid weight loss over the previous two months. He had lost 20 pounds over the previous six weeks and experienced weakness, fatigue and intermittent confusion. He had a very poor appetite with little intake but no swallowing problems, nausea, vomiting nor diarrhea. Physical examination revealed an elderly-appearing, cachectic male who seemed fatigued but conversive and in no apparent distress. His weight was 112 lb. The skin was thin with decreased turgor and scattered ecchymoses. There was no lymphadenopathy. Mucous membranes were dry. The abdomen was slightly protuberant on the right with a hard nodular liver extending to the umbilicus.

Laboratory studies revealed hemoglobin 11 g/dl, hematocrit 34 ml/dl, MCV 88 μm^3, serum sodium 132 mEq/l, bicarbonate less than 10 mEq/l, glucose 63 g/dl, phosphorus 2.4 mg/dl, BUN 31 mg/dl, creatinine 1.3 mg/dl, albumin 3.0 g/dl, and alkaline phosphatase 1,152 u/l with normal range 50-136. Arterial blood pH was 7.22 and the serum lactate level was 111 mg/dl with normal range 4-20.

After a discussion of the ramifications of feeding and its various forms, the patient requested enteral supplementation. This was accomplished by continuous duodenal tube feeding providing 25 kcal per hour. Oral supplementation with 5 g of bicarbonate daily and 12 g of potassium phosphate daily was provided. The following day his serum bicarbonate level was 11 mEq/l with anion gap 26, and he appeared more comfortable and mentally alert. However, the next day his mental status declined. He developed Kussmaul respirations, and his serum bicarbonate level was noted to be less than 10 mEq/l. He died later that day.

Table 3

Case Comparison

	Case 1	*Case 2*
1 month weight loss (1b)	15	20
Total lymphocyte count (cells/nl)	810	910
Serum Albumin (g/dl)	1.9	3.0
Serum Potassium (mEq/l)	2.8	2.8
Serum Phosphate (mg/dl)	2.4	2.4
Serum Bicarbonate (mEq/l)	24	<10
Anion Gap (mEq/1)	10	>27

Discussion

These two cases exemplify human starvation but in distinctly different physiologic conditions. The first case is essentially one of simple starvation, although there was undoubtedly some degree of increased stress and catabolism as a result of a urinary tract infection. The chronic starvation state allowed adaptation mechanisms to develop, with the result being a decrease in protein requirements. This is clearly demonstrated by decreased urine-urea nitrogen levels. Using the formula for nitrogen balance,[11] (UUN + 4) × 6.25, one can calculate that this patient's requirement for maintaining nitrogen balance would be no more than 32 g of protein per day.

Prior studies suggest that rapid refeeding after starvation can lead to multiple complications, including gastrointestinal distress, hypokalemia and hypophosphatemia.[12-14] For these reasons it is generally advisable to replete nutrients gradually until the adaptive mechanisms have diminished, normal metabolic enzyme pathways have regained their activity, and fluid and electrolyte deficits have been corrected. In this particular case, by restricting protein and caloric intake for three days while fluid, electrolyte, vitamin and mineral deficiencies were treated, the patient made an uncomplicated recovery. The zinc deficiency with acrodermatitis enteropathica manifestations of exfoliative rash and diarrhea posed an interesting additional nutritional problem, which resolved promptly with treatment.

The second case represents starvation in a different form. It has been demonstrated that the cachexia and inanition of cancer are markedly different from that of simple starvation.[15, 16] Generally the adaptive mechanisms to starvation do not occur in the cancer patient, and continued protein catabolism further increases nitrogen requirements. In case 2, there was a profound metabolic acidosis. In simple starvation, while there may be a mild ketosis, serum lactate is metabolized via the Cori cycle and does not accumulate; thus metabolic acidosis is unusual.[10] The first case presented here demonstrates an example of simple starvation with a normal anion gap of 10 mEq/l. The second case was cancer cachexia with liver metastasis in which the anion gap was 29 mEq/l and a profound acidosis was evident (Table 3). It could be hypothesized that in this case the large tumor burden in the liver impaired the liver's ability to metabolize lactate. In addition the anaerobic metabolism of this large tumor mass may have produced increasing quantities of lactate as the patient was fed and further substrate became available. As a result, despite bicarbonate supplementation, acidosis continued or worsened. The dire condition of this patient, complicated by his terminal disease, made therapy particularly difficult. Had he elected to have intravenous intervention, control of the acidosis may have been possible but with limited overall benefit. There are instances in which the decision to provide nutritional support is not a simple one.

Nutritional disorders and complications are commonly seen in medical practice. Failure to recognize nutritional disorders is a frequent problem that can be readily corrected by an increased awareness of malnutrition as a problem. The treatment of starvation requires initial assessment of protein status and serum analysis with particular attention to potassium, phosphorus, calcium and magnesium levels. This assessment is followed by a careful repletion phase with controlled quantities of nutrients and frequent serum monitoring, particularly of glucose, potassium, phosphorus and magnesium. Reasonable initial repletion would include 0.6 g of protein per kilogram body weight per day and 50 kcal per kilogram body weight per day.[13] After three to five days, if electrolyte imbalances have been corrected and the patient's gastrointestinal tract is tolerating the refeeding process, intake may gradually be increased up to 3 g of protein per kilogram body weight per day and 100 kcal per kilogram body weight per day. Urinary nitrogen balance studies may be very helpful in determining protein requirements. Daily weight, weekly measurements of triceps skin fold and arm muscle circumference and weekly or bi-weekly measurements of serum transferrin and total lymphocyte count can be helpful indicators of repletion.[11, 17] With an increased awareness of malnutrition, an understanding of the physiology of starvation, a working knowledge of simple nutritional assessment parameters and the use of controlled monitored repletion, physicians can have a major impact on the outcome of the malnourished patients in our hospitals.

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Obstructive Sleep Apnea

Diagnosis, Treatment and Pathophysiology

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Obstructive sleep apnea, a serious condition itself, can lead to excessive daytime sleepiness and adverse cardiopulmonary effects. Various treatment options — medical, surgical and pharmacological — are discussed.

Sleep apnea refers to a transient cessation of breathing during sleep. Sleep apnea syndrome results when these pauses in breathing become too frequent and/or too long. As many as five to 10 brief (10- to 20-second) apneas per hour of sleep are not uncommon in some non-complaining individuals. In patients with sleep apnea syndrome, apnea events are usually 15 to 60 seconds in duration, although episodes lasting one to two minutes are not rare, and hundreds of events per night are typical. In most cases, no waking respiratory dysfunction is present.

Three basic types of apnea have been described: obstructive, central and mixed.[1] Obstructive sleep apnea (OSA) events are pauses in breathing due to occlusion of the airway despite the presence of respiratory effort. That is, diaphragmatic breathing effort continues but is ineffective in exchanging air because of an obstructed airway. Central sleep apnea (CSA) is defined as cessation of breathing due to an absence of respiratory effort. Mixed apnea is a pause in breathing which has both central and obstructive components. In adults, the mixed apnea episode begins with an absence of both airflow and respiratory effort (central component) and continues despite a resumption of effort because of an occluded airway. In infants, the reverse sequence may occur. Many individuals with signigficant amounts of sleep apnea will display all three types of apnea events; however, one type generally predominates.

Although not described until 1966,[2] sleep apnea has been found to be an ubiquitous condition which has received intensive investigation. Recent estimates suggest that the prevalence of sleep apnea is, conservatively, about 3.5% in a sample of industrial workers (ages 14-65)[3] and about 37% in elderly individuals,[4] although the severity of the disorder in these samples is not delineated. Nevertheless, these data indicate that sleep apnea is very common and is likely to affect the quality of life of many individuals.

OSA is clearly the most common type of apnea and is the focus of this report. Typically, these patients report excessive daytime sleepiness (EDS) and loud snoring. The complaint of patients with a predominance of CSA will most commonly focus on insomnia,

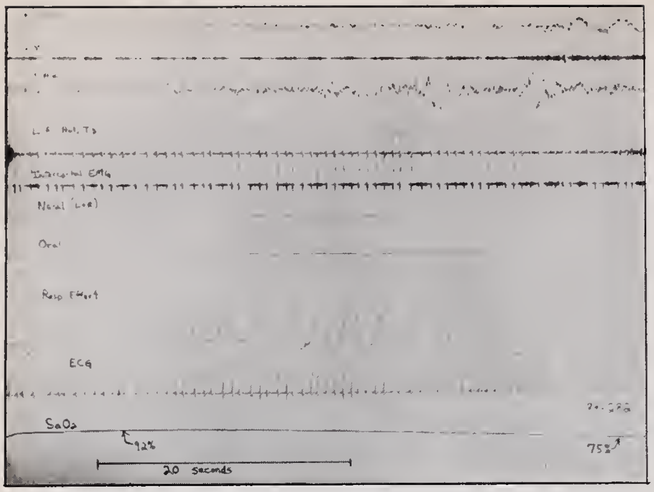

Figure 1. Segment of polysomnogram showing an obstructive apnea episode. Note absence of nasal and oral airflow during continued respiratory effort as indicated by intercostal EMG (seventh channel from top) and respiratory movements of abdomen (channel ten). Oxygen saturation falls from 92% to 75% (a pO_2 of about 40 torr) during the 35-second apnea episode.

rather than EDS. Nevertheless, considerable EDS may be present and the cardiopulmonary sequelae can be similar to that seen in OSA; therefore, much of the following discussion applies to CSA patients as well as those affected with OSA.

Patients with a predominance of mixed apnea are generally felt to be similar to OSA patients in terms of clinical symptoms, pathophysiology, sequelae and treatment options; therefore, the discussion for OSA applies to most patients with mixed apnea. It should be kept in mind, however, that occasional individuals will display a predominance of mixed apnea characterized by relatively long central components (20-40 seconds) followed by one or two occluded respiratory efforts. These individuals may be more similar to CSA patients in their symptoms, pathophysiology, sequelae and treatment.

Clinical Features

The large majority of patients with sleep apnea have a predominance of obstructive apnea episodes. The clinical features of OSA are listed in Table 1. The hallmark symptom of OSA is loud snoring, which results from the vibration of pharyngeal tissues as air passes through a narrow upper airway. Other common features of the OSA syndrome include EDS of varying degrees, excessive body weight, male sex, and a relatively narrow upper airway. OSA patients frequently have a pathological level of daytime sleepiness and report falling asleep while driving, watching television, reading and in other sedentary situations. Other individuals report more moderate levels of EDS. Still other OSA patients deny EDS completely, although physiological sleep tendency is frequently increased.[5] The incidence of OSA in men is much greater than in women,[6] although this difference is less striking in elderly populations. Approximately 80% of OSA patients are 130% or more of their ideal body weight,[6] although fewer than 20% would be considered morbidly obese. For this reason and the fact that OSA patients rarely hypoventilate in the waking state, the description of the Pickwickian syndrome[7] is not an accurate representation of most sleep apnea patients.

Table 1

Clinical Features — Obstructive Sleep Apnea

Very Common

Loud Snoring
Excessive Daytime Sleepiness
Abnormal Motor Activity During Sleep

Common

Obesity
Systemic Hypertension
Relatively Constricted Oropharyngeal Introitus
Intellectual and/or Personality Changes

Rare

Polycythemia
Enuresis
Erectile Impotence
Morning Headache
Cardiomegaly/Heart Failure

Some OSA patients are found to have intellectual and personality changes which are probably related to EDS, although cerebral hypoxia may play a role in severe cases. Morning headaches, likely to be related to hypercapnia, also may be seen. Finally, enuresis and erectile impotence appear to be related to OSA. Enuresis may occur because of heightened parasympathetic tone during apnea. The increase in reported evidence of erectile impotence in OSA patients is unexplained at this time, but may be related to increased catecholamine levels found in some individuals.[8]

Polysomnographic Features and Cardiopulmonary Sequelae

OSA patients evaluated at sleep disorders centers typically experience 100 to 600 apneas per night, or 15 to 80 per hour of sleep. The significance of these repetitive pauses in breathing lies in the effects upon sleep architecture and upon cardiopulmonary function during sleep.

Sleep architecture is usually altered significantly because each apnea is terminated by an arousal. Generally, patients do not report frequent arousals and may state that they sleep undisturbed, despite hundreds of actual arousals each night. Frequent arousals increase time spent awake and in stage 1 sleep and typically decrease amounts of rapid eye movement (REM) and stages 2-4 sleep. Experimentally fragmented sleep has been clearly shown to increase subjective sleepiness and decrease performance in normal sleepers.[9] Additionally, in patients with sleep disorders there is a correlation between frequency of arousals and measures of daytime sleep tendency;[10] therefore, sleep fragmentation is likely to account for a considerable portion of the EDS and its ramifications experienced by OSA patients.

The cardiopulmonary sequelae of OSA can also be dramatic. In some patients, oxyhemoglobin saturation (SaO_2) falls to perilously low levels numerous times each night. This results not only from the absence of air exchange during apnea episodes, but also from reduced lung volumes secondary to the supine position and/or obesity, blunted arousal and ventilatory responses to blood gases, and to primary pulmonary disease, if present. Episodes of oxygen desaturation increase systemic and pulmonary blood pressures. Pulmonary hypertension may eventually result in cor pulmonale, and in severe cases systemic hypertension and hypoxemia may result in left ventricular decompensation. Recent research suggests that diurnal, as well as nocturnal, hypoxemia may be necessary for the development of right heart failure in OSA patients.[11]

A sinus arrhythmia (quite prominent in some individuals) frequently accompanies apnea episodes. Most typically, bradycardia occurs during the latter portion of an apnea episode and is followed by a brief period of tachycardia upon arousal and resumption of respiration. The degree to which the heart rate slows for a given patient is associated with the level of oxygen desaturation and to the performance of a Mueller maneuver, which increase vagal tone. The tachycardia upon apnea termination is probably associated with catecholamine release due to systemic hypoxemia. Catecholamine activity is probably overriden by vagal output until termination of the apnea, when prompt reduction in vagal tone, catecholamine build-up associated with hypoxemia, output from pulmonary stretch receptors, and arousal all contribute to heart rate acceleration.

In some individuals with OSA, cardiac arrhythmias are more significant. Vagal output may be dramatic enough to produce prolonged sinus pauses (3 to 10 seconds), sinus arrest or atrioventricular (AV) blocks. Patients also may display an increase in the number of premature heart beats (either ventricular or supraventricular), and episodes of ventricular tachycardia have been documented. Prolonged asystoles (associated with either sinus node or AV node inhibition), ventricular tachycardia or other potentially lethal arrhythmias appear to be relatively rare in patients with OSA.[6, 12 13]

Continuous positive airway pressure (CPAP) applied through the nares reduces or prevents obstructive apnea by preventing the development of significant negative pressure in the airway.[34, 35] Specifically, CPAP mechanically "splints" the airway to avoid stenosis during sleep, increases lung volumes, and provides stimulation to upper airway receptors; the latter two effects appear to increase pharyngeal lumen size[30] and/or increase pharyngeal muscle tone.[36] Therefore, nasal CPAP appears to improve apnea not only because of mechanical "splinting" but also because of neural feedback regarding lung expansion and airway stimulation.

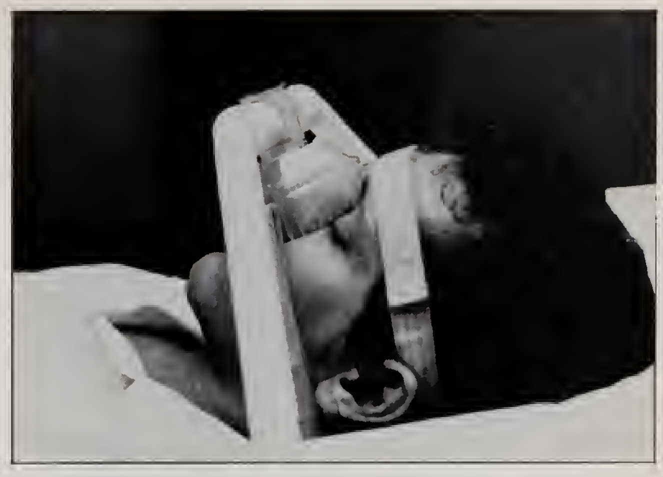

Figure 2. Lateral view of nasal continuous positive airway pressure (CPAP) mask as worn by a patient.

The tongue retaining device (TRD) is an experimental device which is worn in the mouth and, employing user-induced suction, holds the tongue forward during sleep. Response has varied substantially among patients and may be related to the locus of airway occlusion, sleeping position and the fit of the device.[37]

In rare cases, OSA may be secondary to another medical condition, and appropriate therapy for the underlying disorder may obviate the need for further intervention. For example, thyroxine replacement for hypothyroidism,[24] medical and radiation treatment for neck lymphoma[19] and surgical correction of a deviated nasal septum[38] have been shown to significantly improve OSA. Any disorder that produces stenosis of the upper airway (e.g. macroglossia, adenotonsillar hypertrophy, retrognathia, micrognathia, etc.) certainly increases the likelihood of OSA.[17, 18, 39] Neurological abnormalities such as Shy-Drager syndrome and myotonic dystrophy may be major factors in the development of OSA; however, treatment options are very limited for these disorders, and treatment of OSA would be undertaken as if it were idiopathic.

Pharmacological Treatment

Pharmacological therapeutic efforts have met with limited success. Tricyclic antidepressants have been used for their REM-suppressant properties, with the rationale that suppression of REM sleep would improve OSA because apnea episodes tend to be longer and more frequent in REM sleep. Indeed, some patients' apnea is essentially confined to REM sleep. Protriptyline, which is relatively non-sedating, has been found to have somewhat beneficial effects, particularly in patients with mild OSA.[8, 40] Interestingly, recent work in cats suggests that protriptyline directly increases upper airway muscle tone which, in addition to REM suppression, may account for observed improvement in OSA.[41] Anticholinergic side effects

Table 2

Anatomical Abnormalities Contributing to Upper Airway Occlusion During Sleep
Adenotonsillar hypertrophy
Excess pharyngeal tissue
Goiter
Laryngeal stenosis
Macroglossia
Micrognathia
Nasal obstruction
Neck or pharyngeal neoplasm
Retrognathia

(dry mouth, urinary retention, impotence) and a suggested tendency for tricyclics to increase the likelihood of cardiac arrhythmias limit the use of protriptyline. Other tricyclics have not been studied systematically.

Respiratory stimulants are typically of little benefit for OSA. Progesterone improves obesity-hypoventilation problems but is typically ineffective in reducing apnea.[42, 43] Acetazolamide, theophylline and other respiratory stimulants have not been adequately studied with OSA patients, although exacerbation of OSA in a patient with predominantly central apnea has been reported.[44]

Strychnine improves OSA because of its enhancement of pharyngeal muscle activity. The drug's toxicity, however, has prevented wide clinical use.[45] Almitrine, a peripheral chemoreceptor stimulant, may prove beneficial in OSA treatment,[46] but further research is needed.

Surgical Treatment

For patients with severe OSA, whose oxygen saturation is frequently below 70%, or who have life-threatening cardiac arrhythmias and/or disabling EDS, tracheostomy was until recently the recommended treatment. Recent advances in treatment of OSA with other surgical techniques and nasal CPAP have made tracheostomy the treatment of choice in only the most severe cases or in those in which other treatment alternatives have failed. Permanent tracheostomy has been demonstrated to produce rapid improvement in daytime alertness and cardiopulmonary sequelae of OSA.[47] It does, however, have obvious social drawbacks and is not without medical complications,[47, 48] including tracheal stenosis, infection and dermatitis.

The multiple sleep latency test (MSLT) is generally indicated to obtain an objective measure of physiological sleep tendency during the day. The MSLT involves five opportunities to fall asleep (one every two hours) during physiological monitoring. The more rapid the sleep onset on the MSLT, the greater the physiological sleep tendency produced by nocturnal sleep disturbance due to apnea.

Table 3

Treatment for Obstructive Sleep Apnea
Medical
Weight loss
Avoidance of ethanol and other CNS depressants
Nocturnal oxygen
Nasal continuous positive airway pressure (CPAP)
Tongue retaining device (TRD)
Positional therapy
Pharmacological
Protriptyline
Surgical
Tracheostomy
Uvulopalatopharyngoplasty
Mandibular advancement
Gastric bypass
Expansion hyoidplasty

Pathophysiology

The site of airway occlusion is in the pharynx, although the precise location varies among individuals.[14] The cause of occlusion is an imbalance between the dilating activity of the pharyngeal muscles and the negative intrathoracic pressure generated by inspiratory effort. If dilator muscle activity is insufficient to maintain airway patency during inspiration, apnea occurs. Because the structural anatomy of most OSA patients, although grossly normal, includes a small caliber airway,[15] negative inspiratory pressures are generally quite high.[16] Other factors contributing to upper airway collapse include: a) degree of muscle atonia during sleep (generalized atonia of skeletal muscles occurs during REM sleep); b) gross anatomical abnormalities[17-20] which increase airway stenosis and negative inspiratory pressures (see Table 2); c) reduced compensation for resistive loads on breathing;[21] d) alterations in ventilatory control associated with age,[22] CNS depressants,[23] hypothyroidism,[24] and sleep deprivation.[25] Additionally, experimental therapeutic intervention with androgens for anemia[26] or male contraception[27] has been associated with the development of OSA, implicating a role of male hormones.

Medical Treatment

Polysomnographic recording and the MSLT provide the following information which, in combination with the patient's medical history, determine treatment course: 1) frequency and type of apnea, 2) sleep quality, 3) sleep-related oxygenation, 4) frequency and type of cardiac arrhythmias, 5) physiological sleep tendency during waking hours. For predominantly obstructive or mixed apnea, therapeutic alternatives include medical, pharmacologic and surgical strategies (see Table 3). Medical management includes advising patients to avoid alcohol and other CNS depressants (e.g. sleeping pills, tranquilizers, etc.). Any substance which is a CNS depressant increases the frequency of apnea and severity of oxygen desaturation in patients with OSA.[23, 28]

Weight loss is also important for those OSA patients of greater than normal body weight. In many instances, but not all, weight loss alone will significantly reduce the amount and severity of apnea,[29] probably due to an increase in lung volume and associated increase in pharyngeal cross-sectional area,[30] as well as improved ventilatory response to CO_2. Because adequate weight loss may take many months, patients with serious apnea cannot rely on this as the only treatment course. Further, the poor prognosis for sustained weight loss, in general, makes this an unpredictable treatment approach.

Positional therapy may also prove to be beneficial since apnea in many individuals is significantly worse in the supine position.[31] Currently, devices to monitor body position and aid in preventing sleep in the supine position are being developed. "Home remedies," such as sewing tennis balls to the back of the pajama shirt or strapping one arm to the side of the bed, do reduce supine sleeping time, but generally disturb sleep to a significant degree.

Nocturnal oxygen may be beneficial to some OSA patients, but rarely to the degree that no other treatment is necessary,[32] and may be undesirable in certain patients because of prolongation of apnea, probably via suppression of the hypoxic ventilatory drive.[33] Nasal intubation with a flexible tube that bypasses the site of pharyngeal obstruction is effective in eliminating OSA, but is rarely well tolerated on a nightly basis.

In a minority of patients, surgical correction of an obstructing lesion (e.g. adenotonsillar hypertrophy, nasal obstruction) will be sufficient to alleviate OSA.[18, 38] However, the typical OSA patient has no gross lesion in the upper airway.

Uvulopalatopharyngoplasty (UPP) is a surgical procedure designed to remove the uvula and redundant tissue from the soft palate and oropharynx.[49] In this way, the airway size at the oropharyngeal level is increased in an attempt to sufficiently decrease intrathoracic negative pressure and the malleability of oropharyngeal tissue, thereby reducing OSA frequency and duration. As mentioned before, however, the primary site of airway occlusion varies among patients, and some OSA patients have minimal redundant tissue to remove. One would expect that UPP would not be successful for all OSA patients, and recent investigations have supported this expectation.[50, 51] In general, about 50% of unselected OSA patients improve sufficiently following UPP so that no other acute treatment is necessary, although weight loss is likely to further improve obese patients. An additional 20% to 30% of UPP patients improve to some degree but still require further treatment, and 20% to 30% of patients show no benefit from UPP. Further research focusing on airway structure and function should allow selection of appropriate patients for UPP and increase its success rate. For example, fluoroscopic examination of the upper airway during sleep[52] and cephalometric measurement of the airway and skull dimensions[53] may allow improved selection of patients for UPP. The long-term benefit of UPP is not well established, although preliminary results one year postsurgery are encouraging.[54]

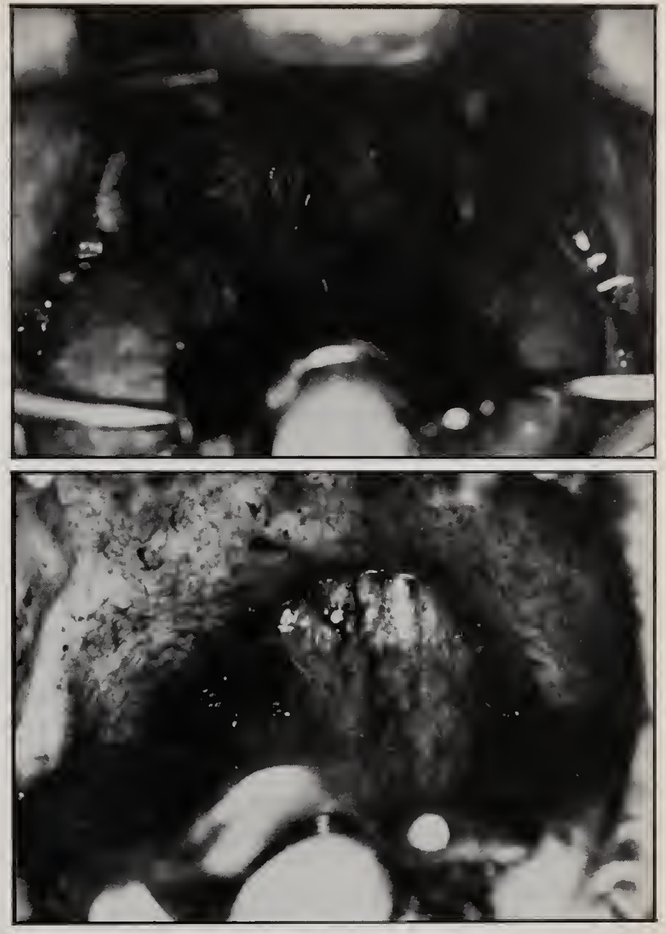

Figure 3A and 3B. Preoperative (A) and post-uvulopalatopharyngoplasty (B) view of the oropharynx with mouth gag in place. Note the large uvula preoperatively.

The recognition of significant hypopharyngeal involvement in many patients with OSA has led toward the development of newer surgical approaches. Mandibular advancement[55] has been successful in a small number of patients. Expansion hyoidplasty[56] may be a promising technique, but it has not been tested adequately in humans to date.

Because many OSA patients are overweight, and significant weight reduction via traditional methods (diet and exercise) is rarely accomplished and seldom maintained, surgical procedures for weight reduction have been employed as treatment for OSA. Preliminary reports suggest the potential effectiveness of gastric bypass surgery in reducing OSA in the morbidly obese when significant weight loss occurs.[57] However, significant complications of gastric bypass have been reported. Further, only a small minority of OSA patients are sufficiently obese to qualify for bypass surgery.

Summary

Obstructive sleep apnea (OSA) is a ubiquitous condition generally associated with the common symptoms of loud snoring and daytime sleepiness. Significant behavioral and cardiopulmonary sequelae are frequently present although no breathing abnormality is generally detectable in the waking state. Polysomnographic recording is necessary to delineate the severity of the disorder in terms of sleep disruption, associated hypoxemia and cardiac arrhythmias, and daytime somnolence. Treatment includes medical, surgical and pharmacological alternatives and can provide significant improvement or resolution of behavioral symptoms and cardiopulmonary pathology.

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Reexpansion Pulmonary Edema

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The development of reexpansion pulmonary edema is commonly associated with the rapid reexpansion of a collapsed lung and the removal of large volumes of air or fluid from the pleural space. Clinical manifestations, management and theories about pathogenesis are presented.

Pulmonary collapse is a potential complication of pneumothorax, bronchial obstruction with secondary atelectasis, hemothorax, and pleural effusion from any cause. When symptoms or signs of respiratory or cardiovascular compromise are evident, immediate reexpansion of the lung is required, but treatment of pulmonary collapse itself can lead to further complications.

Reexpansion pulmonary edema (RPE) is a well-documented and potentially lethal complication associated with the rapid lung reexpansion that follows removal of a large volume of fluid or air from the pleural space.[1-6] It is usually unilateral. RPE has been noted to follow treatment of any of the above entities either by thoracentesis or chest tube drainage with waterseal suction. In most cases atelectasis had been present for three to 18 days.[4, 5, 7] It is not uncommon for RPE to remain undiagnosed until pulmonary edema is flagrant with marked respiratory distress and frothy pink sputum. The early infiltrate may be mistakenly diagnosed and treated as pneumonia.[7] The fact that the infiltrate usually occurs only on the side of reexpansion is a clue to the correct diagnosis.

RPE is thought to be noncardiac in origin.[2-4, 7] The typical progression is as follows: a rapid and/or voluminous reexpansion of the lung by thoracentesis or chest tube is performed. Following the procedure the patient's condition improves. After a few hours a sensation of chest tightness, accompanied by cough, and dyspnea with progressive respiratory distress develop, associated with a new infiltrate on the side of reexpansion. Marked pulmonary edema may then develop on the affected side, although instances of contralateral involvement have been reported.[2, 6] Pulmonary infiltrates are most pronounced within the first 24 hours following reexpansion, and gradually resolve over the next seven to 10 days if the patient survives. This process is usually benign but can be lethal in a short period of time. The mortality rate of RPE is unknown because most cases are unrecognized and unreported.

This noncardiac form of pulmonary edema is associated with decreased lung compliance and parenchymal shunting. Decreased lung compliance is usually evidenced by difficulty in maintaining reexpansion of the lung. Parenchymal shunting is manifested by an increased alveolar-arterial oxygen gradient.

Common to almost all cases of RPE are: 1) a pneumothorax or pleural effusion of moderate to large size (at least 50% of the normal lung volume); 2) pulmonary edema localized to the ipsilateral and previously atelectatic segment (with few exceptions); 3) collapse of the affected lung for at least several days prior to reexpansion; 4) removal of large volumes (approximately 2 l) of fluid or air from the pleural and/or rapid reexpansion of the affected lung by thoracentesis or chest tube drainage with suction; and 5) use of excessive (greater than -20 cm of H_2O) negative intrapleural suction to reexpand the lung.[2-6, 8]

The pathogenesis of RPE is unknown. Several theories have been advanced, but most are based on speculation rather than pathophysiologic data. One theory holds that RPE is due to a sudden increased negative intrapleural pressure sufficient to overcome elastic recoil and surface tension forces of the lung. A suction catheter applied with an inordinately high negative pressure (greater than -120 cm H_2O) may cause reexpansion pulmonary edema.[2, 9] The subsequent high pressure gradient created between the pulmonary capillaries and alveoli may produce fluid extravasation from the capillaries into the alveoli to offset the volume and pressure gradient. This theory alone, however, does not entirely explain the pathogenesis of RPE.[2, 7]

Another proposed mechanism suggests that decreased alveolar surface tension caused by prolonged atelectasis leads to RPE. This theory alone is not plausible since initially the lung is fully reexpandable without evidence of increased surface tension (suggesting adequate surfactant levels are present), and pulmonary edema is generally not associated with abnormally increased alveolar surface tension. Indeed, pulmonary edema can be induced in a degassed lobe without an air-liquid interface.[5, 10] Decreased levels of surfactant have not been demonstrated in reexpansion pulmonary edema. However, this mechanism may play a role when combined with another process.[3, 5, 11]

It was previously believed that pulmonary overperfusion following reexpansion was responsible for an "overflow" extravasation of fluid into the alveolar space. The delay in lymphatic or venous return was felt to be due to prolonged parenchymal collapse. There is a decrease in pulmonary blood flow with atelectasis, but one study demonstrated that the immediate blood flow to areas of previous atelectasis following reexpansion of the lung was 25% to 34% of the total pulmonary blood flow.[12] Only after three to four days does blood flow increase to normal rate. Overperfusion of the previously atelectatic segment of lung is therefore an unlikely mechanism for the development of reexpansion pulmonary edema.

The final theory regarding the pathogenesis of RPE is that atelectasis induces hypoxic damage to the pulmonary capillary membranes. The damaged capillary membrane is postulated to be abnormally permeable to fluid and protein after expansion of the lung and restoration of pulmonary blood flow.[1, 4, 5, 7, 11]

None of these theories alone explains the pathogenesis of RPE. Simple reexpansion of a previously atelectatic segment of lung does not produce pulmonary edema. A recent report of pulmonary edema immediately following rapid aspiration of more than 500 ml of pericardial fluid suggests a similar mechanism.[13] Certain conditions must be met in order for edema to occur. Of these, the most common and clinically important are rapid evacuation of the pleural space, removal of large volumes (approaching 2 l) of pleural fluid or air, a long duration of parenchymal collapse, and the use of excessive negative intrapleural suction.

Consideration of these factors in formulating treatment may minimize the occurrence of RPE. The lung should be reexpanded slowly and the volume of air or fluid removed should not exceed 1.5 l.[3] If a chest tube with waterseal suction is used, the amount of suction should not exceed -20 cm H_2O. It is of interest that in a recent study of the treatment of pneumothorax the use of suction offered no significant advantage over chest tube drainage *without* suction.[14] We do not believe that this study justifies treating all pneumothoraces without the use of suction. However, it may be prudent not to employ suction in cases which are considered to be at greater risk for development of RPE, such as a persistent large pleural effusion which has been rapidly evacuated.

A chest x-ray should be obtained within four hours following reexpansion of the lung. The observation of an infiltrate in the previously collapsed lung combined with the patient's clinical status should provide an accurate diagnosis.

Since most patients with RPE survive without difficulty, treatment is supportive. It should be remembered that the chronicity of the collapsed lung is extremely important to the development of RPE, and this does not obviate using chest tube drainage with suction in acute situations, such as traumatic or spontaneous pneumothorax. If excessive, chest tube suction should be promptly decreased. The affected lung should be placed in a dependent position since extravasated fluid may pour into the unaffected side, resulting in an immediate recurrence of the situation. Arterial blood gases should be monitored for evidence of increased shunting. Administration of supplemental oxygen is generally all that is necessary in milder cases. In more severe instances, intubation and mechanical ventilation with positive airway pressure may be needed to maintain adequate ventilation. In the more fulminant form, early recognition and treatment of RPE may improve the outcome.

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8-14 **Obstetrics & Gynecology: Practical Aspects in Patient Care** — Location: Maui, Hawaii. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis 63110. 314-362-6893.

10-12 **Pan American North American Course** — Location: Key Biscayne, Florida. Contact: Felix N. Sabates, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

13 **City-Wide Radiology Conference** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

13-15 **Consensus Development Conference on the Health Implications of Smokeless Tobacco Use** — Location: National Institutes of Health, Bethesda, Maryland. Contact: Barbara McChesney, Prospect Associates, Suite 401, 2115 East Jefferson St., Rockville, MD 20852. 301-468-6555.

29-30 **Advanced Cardiac Life Support Provider Course** — Location: University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

30-31 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: University of Kansas Medical Center. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

February

5 **Thermal Illnesses and Acclimatization** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

5-7 **Sixth National Conference on CAPD** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-8 **Midwinter Laser Workshop: Lasers for the Posterior Segment** — Location: St. Louis. Contact: Jeanne B. Toma, Retina Research & Development Foundation, 4949 Barnes Hospital Plaza, East Pavilion, Suite 17413, St. Louis 63310. 314-367-1181.

10 **City-Wide Radiology Conference on "Update on the Treatment of Symptomatic Urolithiasis"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

11-12 **Critical Care Symposium** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

15-17 **Advanced Cardiac Life Support Provider Course** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314-577-8167.

23-Mar. 1 **Cardiology Symposium** — Location: Steamboat Springs, Colorado. Contact: Anita Herbst, CME Coordinator, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

March

7 **Medical Ethics** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

7-8 **Family Practice Update** — Location: UMC Alumni Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Organizational Systems** — Location: UMC Memorial Union. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

10 **City-Wide Radiology Conference on "Critical Appraisal of the MRI Experience in Neuroradiology, 2000 Consecutive Cases"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

10-11 **32nd Annual Urology Seminar** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Annual Postgraduate Pediatrics Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

19-20 **Advanced Cardiac Life Support Provider Course** — Location: Francisco Lounge, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

25 **Sam E. Roberts Nutrition Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

28 **AIDS: Are You at Risk?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

April

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4 **Cardiology** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

4-6 **Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

5 **The Brain and the Heart: Inter-relation in Psychiatric and Cardiac Patient Management** — Location: Omni International Hotel, St. Louis Union Station. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

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10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

17-18 **Microcomputer Jungle: Impact on Health Care** — Location: Doubletree Hotel, Overland Park, Kansas. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

21-23 **Surgery of the Paranasal Sinuses** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

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25-26 **Primary Pediatrics Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

25-27 **Thirty-sixth Annual Postgraduate Symposium on Anesthesiology** — Location: Crown Center Hotel, Kansas City, Missouri. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

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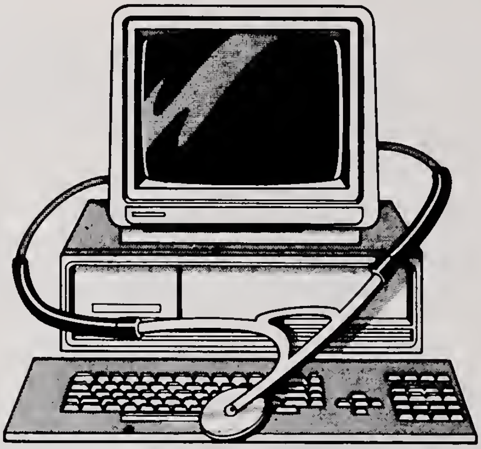

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■ **Mark James Allen, M.D.,** 4320 Wornall Rd., Suite 332, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Allen received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1978. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in internal medicine.

■ **Wasif F. M. Almuttar, M.D.,** 1802 S. Main, P.O. Box 385, Maryville 64468, has become a member of the Northwest Missouri Medical Society. Dr. Almuttar received his preliminary education at Ain-Shams University and his medical degree at Ain-Shams University in 1972. He completed his residency training at Huron Road Hospital, Cleveland, Ohio. He specializes in anesthesiology.

■ **Richard P. Bowles, Jr., M.D.,** 805 Kentucky, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Bowles received his preliminary education at William Jewell College and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the Milton S. Hershey Medical Center, University Park, Pa. He specializes in family practice.

■ **Gregory W. Brabbee, M.D.,** 621 S. New Ballas Rd., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Brabbee received his preliminary education at Northwestern University and his medical degree at Columbia University College of Physicians and Surgeons in 1973. He completed his residency training at Roosevelt Hospital, New York, N.Y. He specializes in general surgery and colon and rectal surgery.

■ **Dak R. Burnett, M.D.,** 5301 Faraon St., St. Joseph 64506, has become a member of the Buchanan County Medical Society. Dr. Burnett received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1980. He completed his residency training at the University of Kansas Medical School, Kansas City, Kan. He specializes in internal medicine.

■ **Nasrollah Hakami, M.D.,** Department of Medicine, Health Science Center, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Hakami received his preliminary education at the University of Tehran and his medical degree at the University of Tehran in 1958. He completed his residency training at Mercy Hospital, Chicago, Ill. He specializes in hematology and oncology.

■ **Daniel L. Dagen, D.O.,** 2700 McClelland, Bldg. B, Suite 203, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Dagen received his preliminary education at the University of Alabama and his osteopathic degree at the Oklahoma College of Osteopathic Medicine and Surgery. He completed his residency training at the University of New Mexico Hospitals, Albuquerque, N.M. He specializes in neurology.

■ **Douglas W. Hanto, M.D.,** 4989 Barnes Hospital Plaza, Suite 5108, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hanto received his preliminary education at St. Olaf College and his medical degree at the University of Arizona in 1977. He completed his residency training at the University of Minnesota Health Sciences Center, Minneapolis, Minn. He specializes in general surgery and transplantation.

■ **Greg A. Jamroz, M.D.,** 200 Madison, Washington 63090, has become a member of the Franklin-Gasconade-Warren County Medical Society. Dr. Jamroz received his preliminary education at St. Louis University and his medical degree at St. Louis University in 1980. He completed his residency training at St. Louis University Affiliated Hospitals. He specializes in radiology.

■ **Bruce N. Jones, M.D.,** 224 South Woods Mill Road, Suite 255, Chesterfield 63017, has become a member of the St. Louis Metropolitan Society. Dr. Jones received his preliminary education at Graceland College and his medical degree at Wayne State University. Dr. Jones completed his residency training at the Washington University affiliated hospitals. He specializes in orthopedic surgery.

■ **Beverly A. Logan-Morrison, M.D.,** 8515 Delmar Blvd., University City 63132, has become a member of the St. Louis Metropolitan Medical Society. Dr. Logan-Morrison received her preliminary education at Webster College and her medical degree at Washington University in 1982. She completed her residency training at St. Lukes Hospital, St. Louis. She specializes in internal medicine.

■ **Nevada A. Mitchell, M.D.,** 6306 Morningside Drive, Kansas City 64113, has become a member of the Jackson County Medical Society. Dr. Mitchell received her preliminary education at Vassar College and her baccalaureate and medical degree at the University of Missouri-Kansas City in 1979. She completed her residency training at the Sepulveda V.A. Hospital, Sepulveda, Calif. She specializes in internal medicine.

■ **Ronald C. Myers, D.O.,** 2727 McClelland Blvd., Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Myers received his preliminary education at Toledo University and his osteopathic degree at the Kansas City College of Osteopathic Medicine in 1976. He completed his internship training at Easttown Osteopathic Hospital, Dallas, Texas. He specializes in emergency medicine.

■ **Russell W. Norwood, M.D.,** 510 S. Kingshighway Blvd., St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Norwood received his preliminary education at the University of Illinois and his medical degree at Creighton University in 1985. He is completing his residency training at Mallinckrodt Institute of Radiology, St. Louis. He specializes in radiology.

■ **Richard Ortiz, M.D.,** 803 Highway 71 West, Savannah 64485, has become a member of the Andrew County Medical Society. Dr. Ortiz received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1982. He completed his residency training at the Goppert Family Care Center, Kansas City. He specializes in family practice.

■ **Jerome G. Piontek, M.D.,** 224 South Woods Mill Rd., Suite 330, Chesterfield 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Piontek received his preliminary education at the Washington University and his medical degree at St. Louis University in 1979. He completed his residency training at Barnes Hospital, St. Louis. He specializes in orthopedic surgery.

■ **David L. Pittman, M.D.,** 2703 Clark Lane, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Pittman received his preliminary education at Nebraska Wesleyan University and his medical degree at the University of Nebraska in 1977. He completed his residency training at Fitzsimmons Army Medical Center, Denver, Colo. He specializes in pathology.

■ **Sam J. W. Romeo, M.D.,** 1402 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Romeo received his preliminary education at St. Mary's College and his medical degree at St. Louis University in 1966. He completed his residency training at U.S. Naval Medical Center, Jacksonville, Fla. He specializes in family practice.

■ **Chris B. Sandberg, M.D.,** 1314 North 36th St., St. Joseph 64506, has become a member of the Buchanan County Medical Society. Dr. Sandberg received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1974. He completed his residency training at Baptist Memorial Hospital, Kansas City. He specializes in family practice.

■ **David M. Steinhaus, M.D.,** Suite II-20, 4320 Wornall Rd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Steinhaus received his preliminary education at Harvard College and his medical degree at Harvard Medical School in 1977. He completed his residency training at Massachusetts General Hospital, Boston, Mass. He specializes in internal medicine.

■ **Robert H. Strashun, M.D.,** 8112 Delmar Blvd., St. Louis 63130, has become a member of the St. Louis Metropolitan Medical Society. Dr. Strashun received his preliminary education at Yeshiva University and his medical degree at New York University in 1982. He completed his residency training at St. Louis Children's Hospital, St. Louis. He specializes in pediatrics.

■ **S. Subramanian, M.D.,** 1515 Hazel, Carthage 64836, has become a member of the Jasper County Medical Society. Dr. Subramanian received his preliminary education at Madras University and his medical degree at Patra University. He completed his residency training at Cleveland Metropolitan General/Highland View Hospital, Cleveland, Ohio. He specializes in internal medicine.

■ **Jonathan I. Wiener, M.D.,** 4444 West Pine Blvd., Apt. 406, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wiener received his preliminary education at Brooklyn College and his medical degree at State University of New York in 1984. Dr. Wiener is completing his residency training at Mallinckrodt Institute of Radiology, St. Louis. He specializes in radiology.

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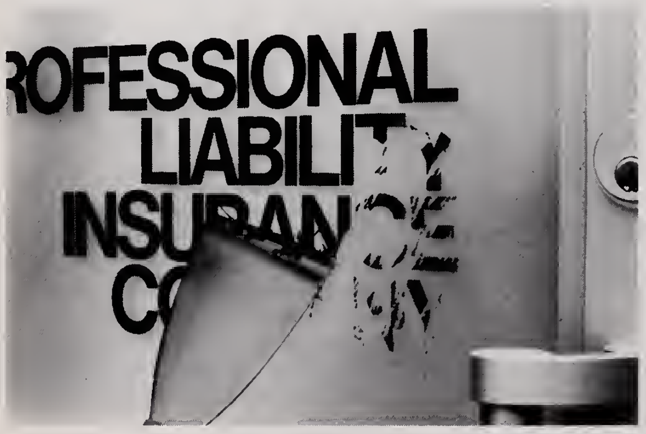

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Physician's Recognition Awards

Forty-five MSMA members qualified for the MSMA-AMA Physician's Recognition Award during October 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

Richard J. Tully, *Columbia*
Kenneth G. Weston, *Columbia*

Buchanan

Richard L. Maginn, *St. Joseph*
Sheila Shah, *St. Joseph*

Butler-Wayne-Ripley-Carter

Bennie N. Till, *Poplar Bluff*

Cape Girardeau

Edwin K. Burford, *Cape Girardeau*

Clay-Platte

Dwight A. Cashier, *Platte City*
Edward H. Fischer, *Kansas City*
Thomas H. Hendren, *Liberty*

Cole

James L. Rea, *Jefferson City*

Franklin-Gasconade-Warren

Thomas J. Mitchell, *St. Clair*

Greene

Robert L. Druet, *Springfield*
Galen R. Hasler, *Springfield*
David G. Logston, *Springfield*

Jackson

Ferenc Bankuti, *Kansas City*
William B. Barry, *Kansas City*
Fernando V. Basantz, *Kansas City*
Chung S. Chun, *Kansas City*
Louis H. Forman, *Kansas City*
Stanley L. Goldman, *Kansas City*
Frederick K. Hall, *Kansas City*
William C. Koury, *Kansas City*
Tae H. Lee, *Kansas City*
Alexis G. Thomas, *Kansas City*

Jasper

D. Mitchell Stinnett, *Joplin*

Mid-Missouri

Eugene F. White, *Rolla*

Northwest

Arturo A. Tenorio, *Stanberry*
Genoveva Tenorio, *Albany*

Pemiscot

James G. Hazel, *Caruthersville*

St. Louis

Richard A. Blath, *Chesterfield*
Hubert F. Bonfili, *St. Louis*
James W. Debnam, *St. Louis*
Robert B. Deitchman, *St. Louis*
Donald J. Dickler, *St. Louis*
Lawrence G. Evans, *St. Louis*
Felicitas Z. Gatchalian, *St. Louis*
Godofredo M. Herzog, *St. Louis*
Ijaz A. Jatala, *St. Louis*
Myo M. Kyaw, *St. Louis*
William C. MacDonald, *St. Louis*
Fletcher T. Ott, *St. Louis*
William D. Owens, *St. Louis*
Harry D. Rosenbaum, *St. Louis*
Kenneth W. Zehnder, *St. Louis*

West Central

Robert C. Dang, *Pleasant Hill*

In Memoriam

- **Norman A. Ginsberg, M.D.,** 320 Penn Park Building, 2929 Baltimore 64108; graduate of Kansas University, 1936; member of the Jackson County Medical Society; age 74; died Nov. 24, 1985.

- **Anna E. Hyman, M.D.,** 818 Olive, St. Louis 63101; graduate of Louisiana State University, 1944; member of the St. Louis Metropolitan Medical Society; age 80; died Nov. 20, 1985.

- **Gregory A. Schulte, M.D.,** 2515 E. 12th St., Joplin 64801; graduate of St. Louis University, 1939; member of the Jasper County Medical Society; age 69; died Nov. 26, 1985.

- **Philip H. Wolfram, M.D.,** 620 Commercial St., Smithville 64089; graduate of the University of Texas Medical Branch, Galveston, 1958; member of the Clay-Platte County Medical Society; age 55; died Nov. 30, 1985.

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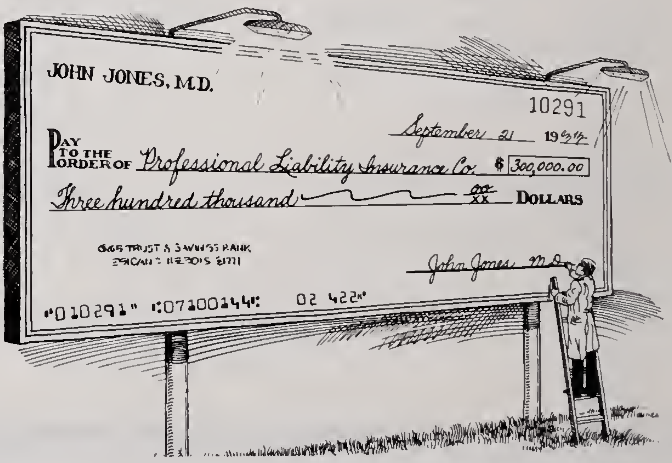
An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.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A Sign of the Times?

In 1983, 22 physician-owned professional liability insurance companies were forced to raise their premiums an average of 17 percent. At that rate, high-risk insurance coverage that cost $63,000 in 1983 could top $300,000 in just ten years.

These costs are leading to an affordability crisis which affects everyone. Physicians are concerned about rising premiums, exorbitant awards and continued insurance availability. Patients pay the price in increased costs and limited access to care.

Liability problems exact a high toll on physicians — in time and money, and even on their health. Some have been forced into early retirement; others have modified their practices to avoid high-risk procedures.

There is help. The American Medical Association's Special Task Force on Professional Liability and Insurance has developed an ambitious plan of action to respond to the crisis. This includes reviewing tort reform, working with the nation's policymakers to address the issue, promoting state coalitions to deal with the problem, distributing patient information materials and instructing physicians on how to avoid lawsuits.

If you want something done about the professional liability problem, become part of the solution: join the AMA.

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Medical School News

The University of Missouri-Columbia

- **Joseph Walls, M.D.**, assistant professor in the division of cardiothoracic surgery, presented two papers in New Orleans at the American College of Chest Physicians, 51st Annual Scientific Assembly. The presentations were "Anatomic and Hemodynamic Assessment of Percutaneous Balloon Angioplasty and Valvuloplasty in Congenital Cardiovascular Anomalies" and "Comparison of Crystalloid and Blood Potassium Cardioplegia Protection of Hypertrophied Myocardium During Elective Ischemic Arrest."

- **David Davis, M.D.**, professor and associate chair of the department of psychiatry, was an invited speaker at the University of Texas Medical Branch-Galveston. He presented his research findings on cognitive perceptions among alcoholics at the department of psychiatry grand rounds and provided consultation to the psychiatry faculty.

- **Lori DeRosear**, assistant professor of psychiatry and clinical director of the University Service Inpatient Unit at the Mid-Missouri Mental Health Center, was appointed secretary-treasurer of the Central Missouri Psychiatric Association (local district branch of the American Psychiatric Association).

- **Armando R. Favazza, M.D.**, professor of psychiatry and chief of the General Psychiatry Section, presented a paper on "Self-Mutilation in Religion and Shamanism" at the annual meeting of the Society for the Study of Psychiatry and Culture at the University of California-Los Angeles.

- **Thomas Hurley, Ph.D.**, assistant professor of child health, has received a five-year grant of $569,026 from the Department of Health and Human Services for a study of "Second Messenger Function in Exocrine Glands."

- **Syed Arshad Husain, M.D.**, professor of child psychiatry, was designated president-elect of the Mid-Continent Psychiatric Association at the organization's annual meeting held in Oklahoma City, Oklahoma. He will serve as president in 1986-87.

- **Javad Kashani, M.D.**, professor of child psychiatry, presented papers on "Depression and Depressive-like States in Preschool Age Children" at the Fourth World Congress of Biological Psychiatry in Philadelphia and "Depression Among Preschool Children" at the Third Annual Childhood Depression Research Consortium in Pittsburgh. In addition, Dr. Kashani has been invited to serve as a consultant in child psychiatry to Harvard and Columbia medical schools.

- **Helen Mullen, Ph.D.**, associate professor of medicine, has received a four-year grant of $343,543 from the National Institute of Arthritis, Diabetes, Digestive and Kidney Disease for a study of "Autoimmune Thyroiditis: Mechanisms of Induction."

- **Grace Sun, Ph.D.**, research professor of biochemistry, has received a three-year grant of $192,833 from the Department of Health and Human Services for a study of "Poly-PI-Phosphodiesterase in Brain Membranes."

- **John Turner**, instructor of pharmacology, has received a three-year grant of $107,434 from the Department of Health and Human Services for a study of "VIP Receptors and Submandibular Gland Function."

- **Daniel Villarreal**, assistant professor in the divisioin of cardiology of the department of medicine, has been awarded a one-year $25,000 grant from the Missouri affiliate of the American Heart Association to study "Role of Cardiac Sympathetic Nerves in Cardiac Hypertrophy."

- **Giulio J. Barbero, M.D.**, professor and chairman of the department of child health at the University of Missouri-Columbia School of Medicine, and **J. Ricardo Martinez, M.D.**, professor of child health and physiology, have co-edited a book, *Animal Models for Cystic Fibrosis*, published by San Francisco Press.

- **Bernard D. Beitman, M.D.**, associate professor of psychiatry, recently has been appointed book review editor for the *International Journal of Eclectic Psychotherapy*, a new publication. He also is a member of the journal's editorial board.

- **Zuhdi Lababidi, M.D.**, professor of child health and director of pediatric cardiology, has been elected president of the Midwest Pediatric Cardiology Society.

- **Zbylut J. Twardowski, M.D.**, professor in the Division of Nephrology, presented "Ultrafiltration Properties and Absorption Rates of Gelatin Derivatives as Osmotic Agent During Long Dwell Peritoneal Dialysis Exchanges in Rats" at the Travenol meeting in Deerfield, Illinois.

- **Robert P. Burns, M.D.**, professor and chairman of the Department of Ophthalmology, and **Joseph Giangiacomo, M.D.**, associate professor of ophthalmology, were participants in the Drug Ocular Therapy Update — 1985 in Irvine, California. Dr. Burns presented "The Effect of Tetracycline on Corneal Ulcers" and Dr. Giangiacomo presented "The Effect of Preoperative Subconjunctival Triamcinolone on Glaucoma Filtration."

University of Missouri-Kansas City

- **John Stone, M.D.**, was the keynote speaker at UMKC School of Medicine's eighth annual convocation for first-year students and their parents. Dr. Stone, who is a successful poet in addition to being a professor, associate dean, and director of Admissions at Emory University in Atlanta, spoke on "Eureka and Other Beginnings." In addition, he made a special presentation, "The Physician as Writer" at the medical school.

- **Gregory Witkop**, Leawood, Kansas, was UMKC School of Medicine's 1985 recipient of the Richard T. Garcia Memorial Award. The Garcia award, which was presented at convocation, is made on behalf of an outstanding medical student who cared about others and showed great promise while a student here. The Garcia award is presented each year to the student who best exemplifies the traits of compassion and empathy for fellow students, fine academic performance, and outstanding leadership.

■ Two of 42 recipients of MAP-Reader's Digest International Fellowships are UMKC graduates. As recipients of the fellowship, **Jane Reardon, M.D.** (Class of '85), and **Tom Reardon, M.D.** (Class of '84), are spending January and February 1986 in Zambia, South Africa. The experience provides first-hand experience with the health problems of poor, Third World civilizations, which lack ready access to adequate medical care.

■ The names of 18 students from UMKC School of Medicine will appear in the 1986 edition of *Who's Who Among Students in American Universities and Colleges*. Students are selected based on academic achievement, service to the community, leadership in extracurricular activities, and potential for continued success. The students are: **Patricia A. Bass, J. Robert Batterson, Penelope Duke, Bradley L. Freilich, Thomas F. Hastings, Satchidan Hiremath, Deborah L. Hurley, Lynette I. Iles, Christine L. Kelley, Fawzia Khan, Michael Knudsen, Dee Anna Main, Martha J. Margreiter, Charlene M. Prather, Michael D. Reynolds, Scott R. Soerries, Malissa J. Wood,** and **Nora Yazdi.**

■ **Preston V. Dilts Jr., M.D.,** presented the 1985 Stanley Reitman, M.D. Memorial Lecture at UMKC School of Medicine on November 14. Dr. Reitman, a prominent physician in St. Louis, was the second president of the St. Louis Friends of the UMKC School of Medicine. Dr. Dilts is professor and chairman of the department of obstetrics and gynecology at the University of Michigan Medical Center, Ann Arbor, and past president of the Council on Resident Education in Obstetrics and Gynecology (CREOG). He spoke on the subject, "How To Choose a Residency."

■ UMKC School of Medicine was very much in evidence at the recent convention of the Association of American Medical Colleges (AAMC) in Washington, D.C. A contingent of 26 attended, the members of which were involved in many activities, ranging from attending sessions, to manning the School's seven poster exhibits, to moderating panel discussions.

AAMC Poster exhibits presented by faculty and staff members included: "Selection of Students for a Combined Baccalaureate/M.D. Degree Program: The Interview and Orientation for Prospective Students and Their Parents." Co-authors were **Drs. Louise Arnold,** and **Katherine Smith,** in addition to **Ms. Virginia Calkins.** Education assistants **Theresa Andrews** and **Kristen Smith** prepared "Elective Options in a Combined B.A./M.D. Program; and **Drs. Reaner G. Shannon,** and Louise Arnold prepared "Functions of a Women's Support Group" with Ms. Virginia Calkins. "A Cluster Course Approach to Issues in Death and Dying" was a collaborative effort on the parts of Drs. Louise Arnold and **Hans Uffelmann,** with input from **Drs. R. A. Berets** and **L. M. Breytspraak;** and **Dr. Jack Mulligan** and Dr. Louise Arnold prepared "Instructional Materials for Education in Cost-Effective Patient Care." A heavily attended exhibit, "Microcomputer Support of Medical Education" was the work of **Mr. Lee Willoughby, Ms. Susan Durbian,** and **Ms. Marline Gerrity.** And, "Exit Interviews: Why Students Leave a B.A./M.D. Program Prematurely," was co-authored by **Drs. Ken R. Mares, Roberta Epstein,** and Ms. Virginia Calkins.

■ UMKC School of Medicine's fourth annual Support Staff Award went to **Ruth Ebel,** secretary for the computer and evaluation resources department. The selection committee considered criteria including attitude, productivity, organization, and work habits. In addition, awards were made for years of service to UMKC. Those receiving awards include: **Ms. Barbara Rauscher** and **Ms. Margaret Heller** for five years; and **Ms. Karen Brown, Ms. Rosemary Burkes,** and **Ms. Marlene Smith** for 10 years.

St. Louis University

■ The National Heart, Lung and Blood Institute has awarded a five-year, $253,000 research career development award to **Robert O. Webster, Ph.D.** Dr. Webster is an assistant professor of internal medicine and microbiology at St. Louis University School of Medicine.

The grant will be used to support Dr. Webster's studies of the adult respiratory distress syndrome (ARDS).

■ David Malone, M.D., associate professor of medicine at St. Louis University School of Medicine, has received a $222,000 career development award from the Veteran's Administration. Dr. Malone has also received a five-year, $194,542 Merit Review award from the Medical Research Division of the Veteran's Administration. These funds will be used to study the cell biology of the osteoclast, a major focus of Dr. Malone's research for the past five years.

■ Faculty members from the Division of Cardiology at St. Louis University School of Medicine participated in the following presentations made at the Fifty-Eighth Annual Scientific Sessions of the American Heart Association held November 10-14, 1985 in Washington, D.C.:

Drs. Jorge Hernandez, Michel G. Vandormael, J. Michael Harper, Ubeydullah Deligonul, and **Bernard Chaitman:** "PTCA in Multivessel Coronary Disease: Influence of Degree of Revascularization."

Dr. Morton J. Kern: "Comparison of Exercise Recovery Blood Pressure Measurements to Thallium Imaging for the Detection of Myocardial Ischemia."

Dr. Herbert J. Geschwind: "Histopathology after Percutaneous Transluminal Laser Angioplasty in Patients."

Drs. Bernard R. Chaitman, George C. Kaiser, Gerald Mudd, Robert D. Wiens: "Combined Proximal Left Anterior Descending and Proximal Left Circumflex Disease."

Dr. Hendrick Barner: "Angiographic Evaluation of Sequential Internal Mammary Artery Coronary Artery Grafts."

Dr. Jerome D. Cohen: "The Impact of Parental Coronary Heart Disease on Medical Student's Knowledge, Attitudes and Health Behaviors."

Drs. Paul H. Gibson, Bernard R. Chaitman, and Harold L. Kennedy: "Absence of Thermal Tissue Injury Using a Pulsed Mode Nd-YAG Laser."

Dr. Morton J. Kern: "The Effect of Beta Blockage on the Augmented Regional Blood Flow Response to Intracoronary Nitroglycerin in Patients with Ischemic Heart Disease."

Dr. Bernard R. Chaitman: "Value of Exercise Testing in Three Vessel Coronary Disease (CASS Registry)."

Drs. Ali Akbar Mehdirad, George A. Williams, Robert J. Bryg, Bernard R. Chaitman and Arthur J. Labovitz: "Evaluation of Left Ventricular Function with Upright Exercise: Correlation of Exercise Doppler with Postexercise Wall Motion and Single Plane Echocardiographic Ejection Fraction."

Dr. Jerome D. Cohen: "Vigorous Exercise in Young Adults: Clustering of Health Habits do not Explain Beneficial Effects on Serum Lipids."

Washington University

■ **Harvey R. Colten, M.D.**, has been appointed head of the department of pediatrics at Washington University School of Medicine, effective March 1986.

Announcement of the appointment was made by **William H. Danforth, M.D.**, chancellor of Washington University. Dr. Colten will replace **Philip R. Dodge, M.D.**, who is stepping down after 19 years as department head to pursue his research interests in pediatric neurology.

Dr. Colten will serve as pediatrician-in-chief at Children's and Barnes hospitals, and as a staff physician at Jewish Hospital. All three hospitals are sponsoring institutions of the Washington University Medical Center.

He has also received the Alumni Endowed Professorship in Pediatrics, the second professorship endowed by alumni and former house staff members in a program designed to attract and retain outstanding faculty members. The first Alumni Endowed Professorship was given in 1982 to **Philip Needleman, Ph.D.**, head of the Department of Pharmacology.

Dr. Colten currently serves as professor of pediatrics at Harvard Medical School, as well as chief of the division of cell biology and director of the cystic fibrosis program at Children's Hospital Medical Center in Boston.

Dr. Colten joined the faculty at Harvard in 1970 as an assistant professor of pediatrics, and became a full professor in 1979. He was chief of the allergy division at Children's Hospital Medical Center from 1973-1976. His career also has included academic appointments at George Washington University Medical School and the National Cancer Institute.

He received his medical degree from Western Reserve University in 1963. He completed an internship and residency in pediatrics at University Hospitals in Cleveland, and a residency in pediatrics at Children's Hospital of D.C. in Washington, D.C. Dr. Colten also served a two-year research fellowship with the National Institute of Child and Human Development.

■ **J. Regan Thomas, M.D.**, assistant professor of otolaryngology at Washington University School of Medicine, has been elected vice president of the American Academy of Facial Plastic and Reconstructive Surgery. As vice president of the 3,000-member medical association, Dr. Thomas will be responsible for fellowship and educational programs.

Dr. Thomas is on staff at Barnes and Jewish hospitals. Before joining the Washington University faculty in 1983, he was clinical assistant professor otolaryngological surgery at the University of Missouri Medical Center.

■ **Rodney P. Lusk, M.D.**, has been named director of the new Center for Communication Disorders of Children at Washington University School of Medicine. The Center is located at Children's Hospital, a sponsoring institution of the Washington University Medical Center. It is part of the division of pediatric otolaryngology at the School of Medicine.

Children with communication disorders, such as hearing impairment and delayed speech development, are diagnosed and treated at the center. The staff is a team of pediatric otolaryngologists, speech language pathologists and audiologists.

Dr. Lusk joined the Washington University faculty earlier this year as an assistant professor of pediatric otolaryngology in the Department of Otolaryngology. He formerly was director of the pediatric otolaryngology division at the University of Iowa College of Medicine. He received his medical degree in 1977 from the University of Missouri-Columbia, where he also completed an internship in general surgery. He served a residency in otolaryngology at the University of Iowa Hospitals and Clinics, and a fellowship in pediatric otolaryngology at Children's Hospital of Pittsburgh.

■ Washington University in St. Louis has been named one of five new Alzheimer's Disease Research Centers (ADRCs) that have received funding for the next five years from the National Institute on Aging (NIA).

The local ADRC will receive funding of more than $3,750,000 for a five-year research program. The NIA will provide the five new centers with $3.4 million in grants for the first year, and a total of $25 million for the next five years, to study the disease.

The St. Louis ADRC is directed by **Leonard Berg, M.D.**, professor of Clinical neurology and program director of the Memory and Aging Project at the School of Medicine. The Memory and Aging Project began in 1979 as a long-term research study of intellectual function in people aged 65 and older. It provides information on the normal aging process as well as on the effects of Alzheimer's Disease on the brain. Dr. Berg is a physician at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

Other than Washington University, new centers have been established at Duke University, the University of Kentucky, the University of Pittsburgh and the University of Washington. The NIA has now funded 10 ADRCs.

■ **Colleen Frawley Mehan** has been named director of medical corporate programs and allied health programs in the Office of Medical ALumni and Development Programs at Washington University School of Medicine. Announcement of her appointment was made by **Herbert F. Hitzeman Jr.**, senior vice chancellor for university relations at Washington University.

■ A multidisciplinary program to aid the diagnosis and treatment of lymphoma has been opened at Jewish Hospital at Washington University Medical Center.

The Lymphoma Consultation Service of the Marilyn Fixman Cancer Center combines the specialties of hematology and medical oncology, radiation oncology, surgery, pathology, and diagnostic radiology in pursuit of precise diagnoses of the 16 or so types of lymphoma.

Jewish Hospital's Lymphoma Consultation Service is the first of its kind in the metropolitan area and in the region, and has been designed to coordinate the treatment of lymphomas and lymphoma-type disorders including Hodgkin's Disease, leukemia and multiple myeloma.

Specialized patient care also includes the services of oncology nurses, social workers, dietitians and patient education specialists, all working together to provide a complete and comprehensive approach to patients and their families.

Information for Contributors

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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This Date in Medical History JANUARY

Compiled by Pasquale Accardo, M.D.
St. Louis

1

291 B.C. Aesculapius was brought to Rome from Epidaurus at the insistence of the Sibylline Books after a plague in 293 B.C. Legend tells how the sacred snake itself chose the Insula Tiberina for its abode, and there on January 1, 291 B.C., a temple was dedicated to Aesculapius.

2

1968 First successful (19 months) human heart transplant performed by Dr. Christiaan Barnard on Capetown dentist Philip Blaiberg.

4

1885 Dr. William West Grant of Davenport, Iowa, diagnosed a perforated appendix in 22-year-old Mary Gartside and completes the first successful appendectomy in America.

7

1579 First medical course (Prima de Medicina) starts at the Royal Pontifical University of Mexico which had been founded in 1551 by a decree of Charles V.

9

1929 The first clinical application of crude penicillin. Alexander Fleming treats an infected antrum by washing out the sinuses with dilute penicillin broth. The patient is his laboratory assistant, Stuart Craddock.

1817 Nathan Smith Davis is born in a log cabin. He founded the American Medical Association with the purpose of educational reform and was the first editor of the *Journal of the American Medical Association.*

11

1922 Insulin first administered.

14

1794 The first successful Cesarean section was performed by Dr. Jessee Bennett on his wife Elizabeth Hog Bennett in Virginia.

18

1719 Sir Samuel Garth, English poet and physician died. His burlesque poem, "The Dispensary," humorously recounts the efforts of the Royal College of Physicians to set up a dispensary for the London poor against the determined oppositioin of the apothecaries who refused to supply medicines cheaply after the physicians gave their services for free.

> *"Let them, but under their superiors,*
> *kill,*
> *When Doctors first have signed the*
> *bloody bill."*

22

1973 United States Supreme Court decision on abortion.

23

1849 The degree of Doctor of Medicine is conferred on Elizabeth Blackwell. *"I was a young woman living at home with nothing to do in what authors call 'comfortable circumstances.' But I was wicked enough not to be comfortable. 'Why not be a nurse?' said the doctor. 'Because I prefer to earn a thousand rather than twenty pounds a year.' "*

25

1813 James Marion Sims, pioneer American gynecologist was born. He discovered that a duckbill vaginal speculum — at first a bent spoon-handle — with the woman lying on her left side with her right thigh drawn up (Sims's position) permitted him to see "everything, as no man had ever seen before." He invented a surgical treatment for vesicovaginal fistula; was the first to suture with silver wires; made the first diagnosis of a distended gall bladder, and performed the first cholecystotomy to drain it. He wrote *Clinical Notes on Uterine Surgery* (1866). When he had announced his career choice, his father's response was far from encouraging: *"It is a profession for which I have the utmost contempt. There is no science in it. There is no honor to be achieved in it, no reputation to be made, and to think that my son should be going around from house to house through this country with a box of pills in one hand and a squirt in the other, to ameliorate human suffering is a thought I never supposed I should have to contemplate."*

26

1841 Dr. D. J. West writes a letter to the *Lancet* with the first description of sudden massive spasms in infancy — what would later be called infantile spasms, hypsarrhythmia or West syndrome. He was describing his own son.

27

1621 Thomas Willis, English iatrochemical physician and anatomist, was born. He is credited with the earliest descriptions of pertussis, typhoid fever, myasthenia gravis, and the eleventh cranial nerve (the nerve of Willis). He was the first to distinguish diabetes mellitus from diabetes insipidus; he named puerperal fever and developed the concepts of lethargy and hysteria. He coined the term "neurology" and is probably best remembered in the eponym given to the arterial anastomoses at the base of the brain, the circle of Willis. The copper plates in his classic *Cerebri Anatome* (1664) were the work of Christopher Wren.

28

1829 The "Resurrection man" William Burke who was responsible for upwards of 30 to 40 murders and who gave a verb to the English language was hanged — and anatomized.

29

1881 Theodore Billroth performs the first successful gastrectomy for stomach cancer. The founder of the Vienna school of surgery, he had previously performed the first esophagectomy (1872) as well as the first laryngectomy (1873). He was also an accomplished musician and an intimate of Brahms.

31

1953 *Pravda* announces the discovery of the "Doctors' Plot," an alleged conspiracy by Russian physicians to murder Soviet military leaders.

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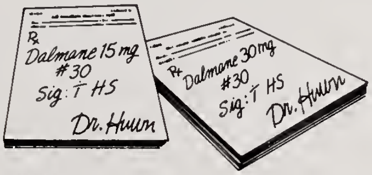
References: 1. Kales J, *et al: Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A, *et al: Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al. Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Dement WC, *et al: Behav Med*, pp 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al:* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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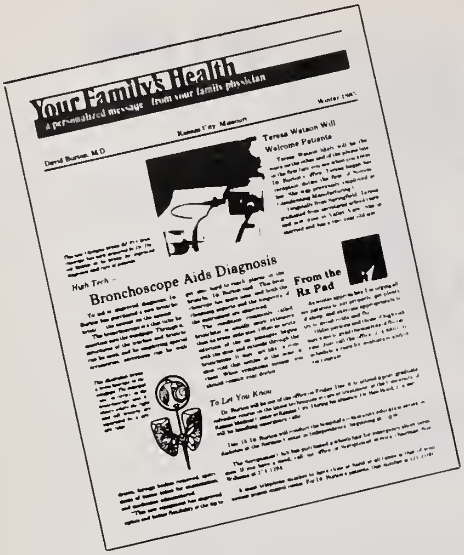

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Cover

"Monterey Pines," by John William Fries, M.D., director, Department of Radiology, St. Anthony's Medical Center, St. Louis. The painting is an 18 x 24" watercolor, photographed by Mr. George Wirth.

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MSMA Progress Notes

Tort reform package moves quickly in General Assembly

Medical malpractice legislation is off to a running start in this Session of the Missouri General Assembly. In almost unprecedented fashion, proposed tort reform legislation, **SB 663,** was introduced, first read, second read, referred to the Senate Insurance Committee and a committee meeting was set, all in a matter of about six hours. This procedure usually takes anywhere from five days to several weeks. The bill passed the Senate the first week of the Session.

This important bill, SB 663, is the compromise measure worked out by the Missouri State Medical Association, the Missouri Hospital Association, the Missouri Association of Osteopathic Physicians and Surgeons, malpractice insurers and the Missouri Association of Trial Attorneys. The bill is designed to change tort law and implement professional disciplinary provisions (see January issue of *Missouri Medicine*) so as to alleviate the medical malpractice crisis in Missouri.

The bill has 18 sponsors including the entire Senate Interim Committee on Medical Malpractice and Product Liability, which studied the issue during the past several months. Senator Robert Johnson (R-Lee's Summit) worked hard last Session to push tort reform measures and he was the primary force responsible for gaining passage of the measure which established the Senate Interim Committee. Senator Jim Mathewson (D-Sedalia) will handle the bill through this Session.

A bill which would permit optometrists to use therapeutic drugs is being pushed hard this Session. **Senate Bill 588** is an obvious attempt by non-physicians to practice medicine and the MSMA is strongly opposed to the measure. All physicians of all specialties should contact their state senator and representative to express their opposition to SB 588. If this bill passes, every medical specialty will become the target of allied health groups.

Several other bills opposed by the MSMA have also been referred to committees for study. **Senate Bill 540** which would license physician assistants has been assigned to Committee as has **SB 582** which would allow physical therapists to practice independently without the referral of a physician and **SB 422** which would weaken the Peer Review Confidentiality bill passed last Session.

There have been more than 125 medically-related bills filed this Session. MSMA members can expect this to be a year when other health care providers will attempt to "divide and conquer" medicine by trying to gain footholds in areas historically considered the practice of medicine.

Some of the other bills which will be debated by this year's General Assembly include:

Senate Bill 609. Would require insurance companies to pay registered nurses (RNs) directly for services rendered when such services are permitted under their Practice Act. This could include nurse midwives, CRNAs and others. In-hospital nursing care is exempted. Conceivably, this bill could encourage independent practice by nurses. Some nurses and physician assistants have testified in the past that they can furnish 80% of the care provided by primary physicians.

Senate Bill 540. Would license physician assistants. MSMA believes the need for such second-level providers has passed with the growing supply of physicians. MSMA opposes licensure of additional health care providers.

House Bill 1415. A bill to legalize the practice of *lay* midwifery is expected to be introduced. These poorly educated and poorly trained individuals would be permitted to handle "normal deliveries."

House Bill 1035. Would license dietitians and limit the practice to those so licensed. **House Bill 1065** would license occupational therapists and limit the practice to those so licensed. MSMA opposes both.

House Bill 893. Would require that prescriptions for controlled substances be issued on triplicate forms supplied by the state in an effort to stem the problem of prescription drugs finding their way into the open market. MSMA is working to find a system to solve the problem while causing as few inconveniences to physicians and patients as possible.

Senate Bill 695. A bill will be introduced to provide for state funding of additional residency slots for family practice residents. Statistics show that although the number of physicians is growing, family practice residents are not being trained in sufficient numbers to replace family physicians who are retiring, dying, etc. MSMA will support this bill.

For more information on any of these bills, please contact the MSMA, P.O. Box 1028, Jefferson City, MO 65102. 314/636-5151. ■

Council approves $1.2 million budget

The 1986 budget of the Missouri State Medical Association was approved by the MSMA Council at its December meeting in Columbia. Dr. Jay Meyer, chairman of the Budget and Finance Committee, reported that the Association's $1.2 million budget would include $122,000 in expenditures in excess of income. This deficit will be funded from the Association's certificates of deposits and the Association's stock.

The Budget and Finance Committee also reported that the Association will not be able to increase any membership programs or services unless there is a dues increase. The Committee recommended a dues increase, effective 1987, from the current $150 to $300.

After discussion, the Council approved both the $1.2 million budget and the $150 dues increase for 1987. The dues increase will be voted upon the the MSMA House of Delegates at its meeting April 3-6 in St. Louis.

Royal Cooper, MSMA executive vice president, reported to the Council that 10% of full dues paying MSMA members are now paying AMA directly and 41% of Missouri AMA membership is now being paid directly. This 41% includes students and residents. It is estimated that the Association lost $60,000 in dues in 1985 due to Missouri physicians' direct payments to the AMA. In addition, MSMA also could have received an additional $1,200 from the AMA as payment for the MSMA collecting AMA dues.

During the December AMA Interim Meeting, the Missouri delegation to the AMA pledged to work toward unified membership. Missouri AMA delegates will be visiting component medical societies and making presentations to delegates' caucuses urging approval of the unification plan. If unified membership is approved in April by the MSMA House of Delegates, it will result in a 10% reduction of AMA dues to Missouri physicians.

Dr. John I. Matthews, chairman of the Committee on Legislative Affairs, reported to the Council on some of the bills of interest to medicine that had been pre-filed for the General Assembly, covering such issues as licensure of physician assistants; revision of peer review statutes; licensure revocation; temporary licensure of physicians; organ donation; family practice residencies; reimbursement for RN services; mandatory reporting/temporary suspension; nurse anesthetists; drug formulary change; and uniform health care.

The MSMA Executive Committee reported to the Council that it had held several meetings with Dr. Robert Burnett, an expert in the field of HMO/IPAs to discuss the possibility of establishing an MSMA-sponsored HMO/IPA for the state of Missouri.

One such written proposal had been submitted to the Council for its review and it was suggested that this report be submitted to the MSMA House of Delegates in April. Following discussion, the Council voted to appoint a committee to do a more in-depth study of the matter and report back to the Council in February and to the House of Delegates in April.

In other business, Dr. Richard Bradley reported that Kemper has agreed to re-insure MOMEDICO on a five-year basis. One of the stipulations is that MOMEDICO shift from occurrence claims-made coverage. Dr. Bradley indicated that he was quite certain that MOMEDICO is the only company in Missouri that offers insurance in excess of $1 million.

The MSMA Council also heard a report on the Committee on the Impaired Physician and authorized the committee to proceed to search for a part-time director with an annual salary of $35,000-$40,000. ■

Inpatient deductible, coinsurance amounts jump by 23 percent

The new Medicare inpatient deductible and coinsurance amounts, which went into effect Jan. 1, 1986, represent a 23% increase over the 1985 deductible and coinsurance amounts. The new amounts, as announced by the Health Care Financing Administration, are:

Inpatient Hospital	
Deductible	$492
Coinsurance	
a) 61st-90th days of hospitalization	$123
b) Lifetime reserve days	$246
Skilled Nursing Facility, 21st-100th days	$ 61.50

■

Scam of the Month

The Hyperactive Child Scam

Investigations in the Kansas City and Columbia, Missouri areas have uncovered a very complex and organized scam. Welfare and Medicaid recipients, having as many as six or seven children, were presenting these children to physicians as having Attention Deficit Syndrome. The parents explain that their children were previously treated by a physician who had left the area and that the physician has prescribed 20 mg Ritalin, usually 120 every 30 days.

Many of the phsicians involved questioned the dosage and quantity and immediately became suspicious. The Bureau of Narcotics and Dangerous Drugs (BNDD) received complaints from several physicians stating that these "parents" were threatening both them and their office staffs.

Continued on next page

New preadmission certification criteria

The Missouri Patient Care Review Foundation announced changes to the statewide preadmission certification program under Medicare.

- ☐ Effective with admissions on or after Dec. 1, 1985, preadmission certification will now be required for all inguinal hernia repairs. (See chart to the right for a list of all procedures that will be subject to preadmission.)
- ☐ Effective immediately, all cases found upon retrospective admission review to have required preadmission certification, but for which no certification was obtained, will be denied, regardless of the necessity of the admission. Such denials will be eligible for reconsideration only on the basis that the admission was on an emergency rather than elective admission.

This latter policy is a departure from the practice the Foundation has employed since the program began in October 1984 of approving cases where preadmission certification was required and not obtained but for which medical necessity could be demonstrated. ■

Screening Criteria for Use by Review Coordinators Preadmission Certification

Generally speaking, the following procedures can be safely performed on an outpatient basis:

(1)	04.43	Release of carpal tunnel syndrome
(2)	24.5	Alveoloplasty
(3)	40.11	Biopsy of lymphatic structure
(4)	53.00 through 53.17	All inguinal hernia repairs
(5)	67.12	Other cervical biopsy
(6)	67.39	Other excision/destruction of lesion or tissue of cervix
(7)	69.09	Other dilation and curettage
(8)	71.3	Other local excision/destruction of lesion of vulva and perineum
(9)	81.18	Other fusion of toe
(10)	82.21	Excision of lesion of tendon sheath of hand
(11)	83.13	Other tenotomy
(12)	85.12	Other biopsy of breast
(13)	86.23	Removal of nail, nailbed, or nailfold
(14)	86.3	Other local excision/destruction of lesions of skin or subcutaneous tissue
(15)	86.60	Free skin graft, NOS

Hospitalization of a patient is warranted *only* if one or more of the following conditions are present:

(1) Outpatient surgery entails a relatively greater degree of risk, either because of:
  (a) The patient's age and debilitated state, *or*
  (b) The existence of a significant secondary medical diagnosis or systemic disorder, *or*
  (c) The time required to perform the particular procedure or procedures involved (60 minutes or more).
(2) The procedure will be followed by a major surgical procedure.
(3) Documented complications that arise during the procedure or in the immediate post-operative period may occasion inpatient admission.

Scam *(Continued from page 60)*

One enterprising physician, convinced that a scam was being perpetrated, asked his wife to verify the patients' stories. The wife quickly discovered that many of the children did not attend the schools reported and that, if they were, they were not on medication. Of the 45 children presented to this single physician as having Attention Deficit Syndrome, only two were found to be attending school and requiring medication.

Interestingly, in the above case, several of the patients (parents) were given prescriptions for 5 mg and 10 mg of Ritalin, instead of the requested 20 mg. On several occasions, the parents refused the lower dosage prescriptions, or did not return for further treatment. Apparently, it is more difficult to sell the 5 and 10 milligram tablets.

Physicians are cautioned to make their own diagnosis of patient complaints and problems. Current information on Attention Deficit Syndrome indicates that the child's teacher is the most important source of information on the child's behavior and possible need for medication. Also, 20 mg Ritalin is currently one of the most highly abused controlled drugs in Missouri.

Physicians are cautioned to be alert for patients seeking help for hyperactive children and who are unknown to the physician, demonstrate behavior normally associated with drug abusers, have insufficient identification, or otherwise appear suspicious.

A request for positive identification and/or a telephone call or two can be an effective deterrent to such scams. ■

Recommendations sought for 1986

H. Peter Ekern, M.D., president-elect of the Missouri State Medical Association, is soliciting recommendations for commission and committee appointments to be made at the MSMA Annual Convention, April 3-6, in St. Louis.

Dr. Ekern will take the gavel as the new MSMA president during the Association's 128th Annual Convention at the St. Louis Marriott Pavilion Hotel. During the convention, he will appoint new commission and committee members. There are open slots on each of the following commissions or committees: Constitution and Bylaws; Impaired Physician; Legislative Affairs; Planning; Medical-Legal Affairs; Public Affairs; Continuing Education and Health Manpower; and Medical Economics, Third Party Medicine and Governmental Relations.

Recommendations should be sent to H. Peter Ekern, M.D., Missouri State Medical Association, P. O. Box 1028, Jefferson City, MO 65102. ■

Guidelines set to help dissolve disputes between hospitals and doctors

A program jointly sponsored by the Missouri State Medical Association (MSMA), the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) and the Missouri Hospital Association (MHA) has been developed to assist in resolving disputes between physicians and hospitals. Each of the associations will participate when one or more of its members is involved in a conflict.

The associations believe disputes should be resolved locally among the parties whenever possible. If a physician(s), medical staff or hospital feels that outside assistance is necessary to resolve a conflict, a request can be made to one of the associations. MSMA, MAOPS and MHA will follow up with the parties and appoint a panel to hear the dispute if the following conditions are met: all parties agree in writing to request the associations to assist in resolving the dispute; each of the parties furnish in sufficient detail its view of the factual situation and steps which have been taken to resolve the dispute and positions of the parties; and each of the parties offer a compromise solution for consideration by the panel.

Upon receipt of the information, the associations will appoint a panel to hear the matter, set a mutually convenient date, time and place for the hearing and notify the parties of any procedural rules which will apply.

The panel will review information furnished by the parties, as well as comments by the associations prior to the hearing. No written record of the hearing will be maintained and no party may be represented by legal counsel or other counsel.

The panel will hear the positions of the parties, review pertinent information, determine a recommended course of action and present its recommendations to the parties.

The parties are responsible for accepting or modifying the panel's recommendations, however, the panel may provide further assistance in the event all parties so request.

Out-of-pocket expenses of the panel members shall be reimbursed by the parties equally, according to the number of separate positions being taken. For example, if there are two distinct positions, the two parties shall share equally the expenses. If there are three separate positions, the three parties holding those positions shall share equally the expenses. Sharing of the expenses may be modified upon mutual consent of the dissident parties.

Administrative support shall be provided by the associations without charge as part of their services to the physicians and hospitals in Missouri.

The parties may accept, reject or modify the panel's recommendations; other action may be initiated by one or more of the parties. It is hoped that the associations' program will result in private resolution of conflict without the time, expense and destruction of more formal or public actions. ■

MDs must purchase Medicare claim forms

Physicians no longer can obtain complimentary supplies of HCFA's Medicare claim forms from carriers.

Physicians now must purchase these forms, Standard Form HCFA-1500, from the AMA or commercial providers. Complimentary distribution ended Oct. 1, 1985, when new HCFA regulations eliminated free distribution as part of its increased efforts to reduce federal cost outlays for Medicare.

The AMA provides supplies that are reasonably priced and of high quality. Prices are as follows:

Single sheets (OP-501, carton of 1000)	$34.10
Two-part snapout (OP-502, carton of 1000)	$49.50
Two-part computer pinfeed (OP-503)	$51.75

Prices include UPS and other charges. There is a discount for bulk orders. Additionally, there is a 10% discount for AMA members or medical societies.

All inquiries should be directed to: AMA Insurance for Book and Pamphlet Fulfillment, AMA, P.O. Box 10946, Chicago, IL 60610-7168. Delivery can be expected within two weeks of placing an order. ■

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CARDIZEM
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balances potent coronary vasodilation with a low incidence of side effects

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CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

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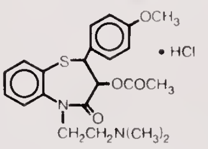
cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD$_{50}$'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD$_{50}$'s in these species were 60 and 38 mg/kg, respectively. The oral LD$_{50}$ in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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Letters to the Editor

There's no reason to unify behind an organization with poor leadership

Dear Dr. Burkey,

I read my December issue of Missouri Medicine and found it interesting, as usual, until I read the article, "In My Opinion" by Dr. Ritter. In it he expounds the virtues of the AMA and apparently is trying to promulgate a change in MSMA bylaws requiring MSMA members to also be members of the AMA. I, for one, certainly hope that action will be defeated. I have enjoyed membership in the Missouri State Medical Association for many years and would hope to continue to belong. However, if membership becomes contingent on the AMA, I may well find it necessary to discontinue it.

The AMA is not in the forefront of anything right now. I take sharp issue with Dr. Ritter's article. The AMA has had poor leadership who have ineffectually dealt with the problems of society and, in particular, with the problems of the medical profession. It has had leadership promulgated by the "I'm aboard, pull me up the ladder" mentality. We have seen ineffectual leadership in the AMA virtually every year for the last ten years and it looks as though that unfortunte situation will prevail.

It is rare that a major association, such as the AMA, is marked with such inept leadership for such a long time. The AMA has not been a leader in quality medical education. Fortunately, the gap has been bridged by the specialty organizations and the American College of Surgeons. The AMA has done very little to promote quality medical care. Fortunately, the American College of Surgeons and the American Academy of Orthopaedic Surgeons and other specialty groups have again filled a gap.

The AMA has failed to represent the physician to Congress and in the political affairs, particularly in regard to Medicare and recent legislation. The "AMA lobby" in Washington has squandered the members' dues. The legal department of the AMA has not aggressively fought the unconstitutional legislation and attempts to regulate doctors' fees nationally or, for that matter, done much in the state of Massachusetts.

I suppose unification would be a good thing if we had a decent organization to unify behind, but the AMA is not and I would hope that you will publish a different opinion so that at least a balanced perspective may be presented in your magazine.

Robert E. Kuhlman, M.D.
St. Louis

Do you want to help pass tort reform legislation? All it takes is desire, determination

Dear Dr. Burkey,

As chairman of the MSMA Key Contact program, I recently received a letter which I would like to share with you and the readers of our state medical journal.

As most MSMA members know by now, we are in the middle of a strenuous battle to pass medical malpractice legislation through this year's Missouri General Assembly. Our approach to this difficult task must be united, aggressive and multifaceted. One of the ways we are communicating our message to legislators is through PIP (Physicians Involvement Program). I recently wrote to MSMA Key Contact members and county society presidents and secretaries and asked them to join PIP by agreeing to take one Wednesday out of their schedules to come to to Jefferson City and meet with other physicians, MSMA staff and, most importantly, with their own state legislators.

Here is one response that I received. If only more MSMA members shared Dr. Eggleston's commitment!

Kenneth L. Rall, M.D.
Columbia

Dear Mr. Rall,

Since I am now 83 years old, retired and disabled, it is impossible for me to be in Jefferson City by myself. However, I do wish to help as much as possible. In Macon, I have good relations with my legislators and will write or phone. I do feel considerably handicapped.

Donald E. Eggleston, M.D.
Macon

Editor's Note: Dr. Eggleston also enclosed a check for his 1986 contribution to MMPAC (Missouri Medical Political Action Committee). Dr. Eggleston is a fine example to us all. Let's follow his lead. Write PIP, P.O. Box 1028, Jefferson City, MO 65102.

Write
a letter to the editor
today.

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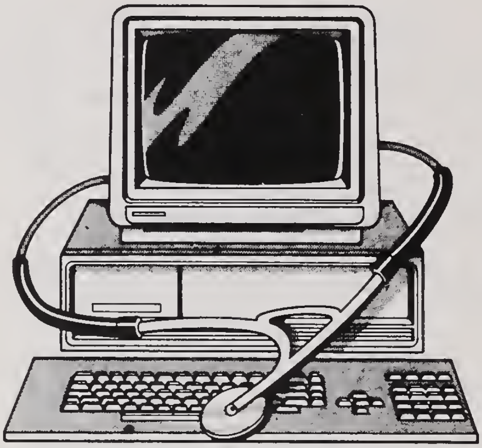

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

A number of our medical colleagues prefer to ride along with their PPO rather than be organized with other doctors to guard physicians' and patients' welfare.

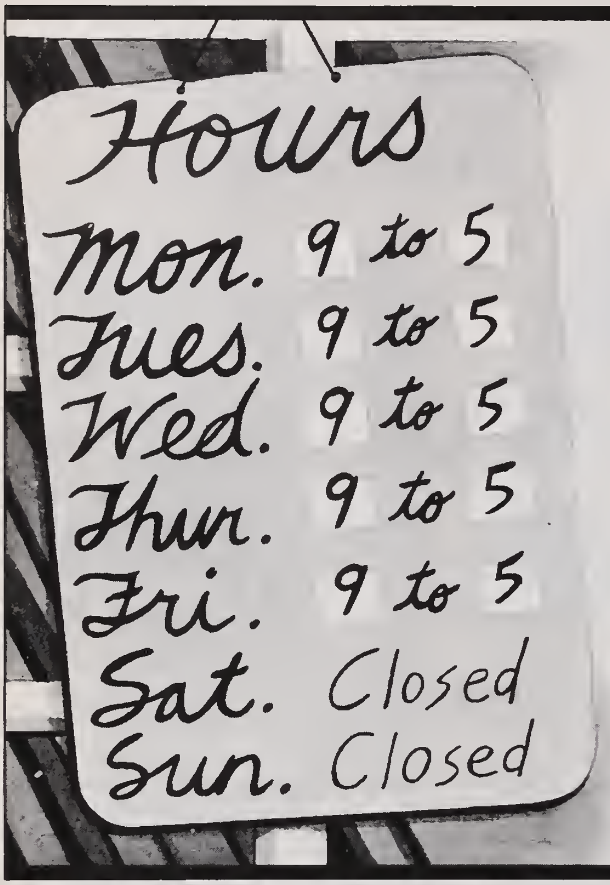
To be heard, we must speak in one voice

Medical malpractice. Preferred provider. Cost containment. These are some of the modern impediments to medical practice with which we all must deal. To this list we can add another alliterative term — physician frustration. Not knowing how to handle all the pushing and shoving in medicine today makes a doctor want to lash out at someone. Washington is too far off; Jefferson City is, for most, an unfamiliar territory; and insurance companies function in another world. Local medical societies, which don't seem to be helping as much as they should, are at least reachable. So say some, let's cease paying dues to your local/state/national medical association — that'll show 'em!

Some such reasoning must be in force; at the time when there is more call than ever for "organized medicine" to act organized and stand up for its rights, doctors are showing less and less interest in these associations. The American Medical Association cannot very effectively tell the nation's politicians that it speaks for medicine; only 44% of the doctors in the United States belong to it. The AMA has the prestige and maintains its profile through various medical publications, while one's local society is close and more personal. The state medical organization often seems the least important. Much of what affects us, however, occurs at the state level, and there are doctors can be effective if they speak in strength of numbers.

Doctors don't appear to have a great loyalty to the profession as such, with their energies often restricted to specialty interests or centered on clinic, hospital or medical groups activities. This gradual evolution of physicians' priorities is undoubtedly weakening our basic medical associations. As a goodwill gesture, one California HMO recently offered to pay the county medical society dues for any of its physician members who desired to belong; only 30% bothered to take advantage of this. Obviously, a number of our medical colleagues have given up their initiative; they prefer to ride along with their PPO rather than be organized with other doctors to guard physicians' and patients' welfare.

Crisis often bring people together, and perhaps the tort reform issue along with DRGs, PPOs and Medicaid problems can push the doctors of Missouri into speaking in a louder and unified voice. This could best be carried out through our Missouri State Medical Association. This organization is active and is ready for more action. Let's make full use of it. ■



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And when they do, they can be costly. That's why the MSMA sponsors an insurance plan for members . . . one that offers attractive coverage at a favorable price.

Accidents occur everywhere — on planes — on buses or other public conveyances — in cars — on the job — in the home — in sports activities.

All members under age 65 are eligible. Your spouse and children (to age 23) can be covered if you apply. Coverage is provided without regard to health history.

The plan is underwritten by Commercial Insurance Company, Newark, N.J.

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Please send me a brochure and application for the Missouri State Medical Association sponsored plan(s) I've checked below. I understand there is absolutely no obligation.

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PRESIDENT'S PAGE

by Walter German, M.D.

The sole purpose for all of the MSMA programs is for the benefit and betterment of you and your medical practice.

Programs and services designed to help you

By the time you read this article, our medical malpractice bill should be making its way through the legislative process toward a successful conclusion. Due to the extreme importance of this bill, most of the Missouri State Medical Association's efforts and communications have been concerned with legislative affairs. While legislative affairs are indeed very important to all practicing doctors, I want to remind you of the many other ongoing programs of the Missouri State Medical Association. Even though publicity-wise they have been placed on the rear burner, they all still are going strong. I have divided 21 separate programs of actions into four categories which are as follows:

Participation

1. You have the *right to vote* on issues before the MSMA; *to serve* on its commissions and committees; and *to serve* as an officer of the Association.
2. You can become a member of the *Missouri Medical Political Action Committee* and add your voice and influence to medico-political issues.
3. You have an avenue for *input into the legislative process* — both at home in Jefferson City, and nationally in Washington.
4. You can attend the *MSMA Annual Convention,* where CME programs and Association business bring physicians from across Missouri together.

Information

1. *Missouri Medicine* — the statewide journal of the Association — is the only forum of its kind in Missouri. Articles cover scientific topics, of course, but also discuss important social, economic, and political issues of the day — all written by Missouri authors.
2. *Patient information brochures* are available from the MSMA, covering topics like health care cost control, alternative health care plans, breasts cancer treatments, and DRGs.
3. Information and data from *Missouri's PRO,* the Missouri Patient Care Review Foundation, are available through your Association. In addition, six MSMA member/physicians represent you on the Foundation's board.
4. Each year, a *membership directory* is published in *Missouri Medicine,* providing you with a single source for members' and officers' addresses and telephone numbers.
5. *Practice management seminars* held during the year are a good way to sharpen your office operation — from appointment-making to bill-collecting.
6. Physicians on *hospital medical staffs* can obtain information and advice through the MSMA whenever they may have problems negotiating with the board of trustees or administrators of their institutions.
7. Questions on *medical-legal issues?* Through the MSMA, you have access to expert opinion and advice. You also have expert advice on questions of *medical ethics.*
8. Whenever you have questions or problems with *third-party payers* — Medicare, Medicaid, or other insurers — you can get answers and solutions

Continued on next page

President's Letter

Continued

through your Association. You have access to advice and interpretation on rules and regulations, benefits and other complexities.

Physician Services

1. The *Physician Placement Service* is a free service that matches interested physicians with Missouri communities that need them.
2. The *Missouri State Medical Foundation,* through a dues assessment from MSMA members and other donations, helps deserving medical students to meet their financial obligations while they attend medical school.
3. A *public relations* program helps strengthen the relationship between physician and community. Help is also available to individual practitioners who wish to start their own public relations plans.
4. All *Continuing Medical Education* programs in Missouri — so important in this day and age — are accredited by the MSMA.
5. An *Impaired Physician Program* helps physicians who are having life problems, including substance abuse, that prevent them from functioning at their best. The program helps them get the treatment they need to get them back in control and back in practice.

Group Benefits

1. You have access to a number of *insurance programs,* including the following:
   Professional liability insurance;
   Personal disability income;
   Office overhead expense insurance;
   Accidental death and dismemberment insurance;
   Hospital indemnity plan;
   Major medical plan;
   Term life insurance plan; and
   Workers' Compensation;

   Group rates make many of these plans extra attractive.
2. You can join us on a number of *travel programs,* always different, always exciting, and always offering outstanding CME opportunities.
3. You have access to the services of an MSMA-endorsed *collection agency,* making bill collecting simpler for you — yet ethical and mindful of your reputation in the community.
4. To help you design and administer your own *retirement plan,* the MSMA has arranged with EF Hutton and Trust Consultants to provide complete retirement plan services to members. Expert assistance is available for plan review, design, and administration.

Please read through these programs carefully. You would be unusual if you didn't find one or two programs which would be of help to you personally or in your medical practice. Remember, the sole purpose for all of these programs is for the benefit and betterment of you and your medical practice. Hundreds of doctors around the state are already utilizing one or more of these programs.

During the past six months or so much more activity has been expended by the impaired physician committee. The Association has provided more than $50,000 to this program to date and at least one medical malpractice carrier has donated $5,000. Once in place, this program will rank among the best in the nation, and once again, we Missouri doctors will benefit from its actions.

A separate committee has been seriously studying all of the ramifications of a statewide prepaid form of medicine. "Is it feasible? Should MSMA get into this business? What is the cost? How can such a program be set up?" These and many other questions will be answered at our next MSMA Annual Convention when a full report will be made to the membership. As you can see, there are indeed many programs of action now going on in our state. We tend to forget what all is available to us in the field of medicine in Missouri. Make use of your state society labors in order that you and your medical practice may benefit and prosper. ■

"Without your help I simply could not have made it through medical school."

The Missouri State Medical Foundation — MSMF — was created by the Missouri State Medical Association for the express purpose of giving financial assistance to deserving young Missourians who will be tomorrow's doctors.

Send your check today to the Missouri State Medical Foundation, 113 Madison St., P.O. Box 1028, Jefferson City, MO 65101.

Auxiliary Message

by Chris Bohigian
President

By understanding your priorities, the Auxiliary is better able to set the wheels in motion to support your programs.

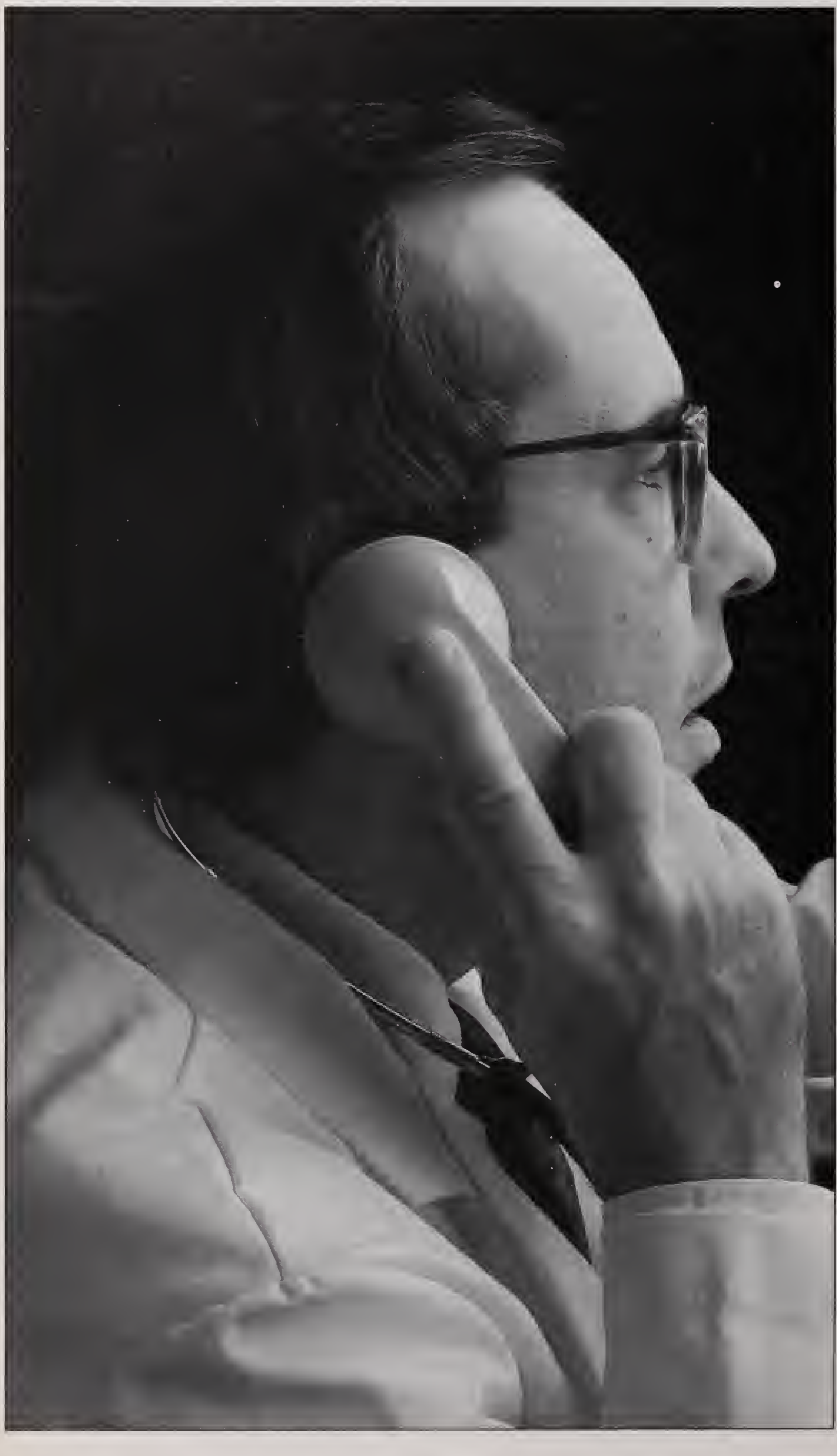
MSMA and Auxiliary are working as a team

Webster defines a "team" as a group of people working together toward a common purpose. What could be a more natural team than that of the Missouri State Medical Association and its strongest ally, the MSMA Auxiliary?

The Auxiliary provides an effective force in public relations, an additional voice in legislative efforts, and a ready-made source of community contacts. Your spouses serve with distinction in many civic and community groups. They are dedicated to improving the quality of life for Missourians. They are active, knowledgeable and well-informed. They serve as tremendous fundraisers, excellent administrators, outstanding membership recruiters, and great public relations experts.

Auxiliary members serve in legislative and health planning capacities. They help patients become aware of needed services through community agencies. They promote health education, home care and other health services. Current programs such as crisis hotlines for abused women and children, drug and alcohol education for students, promotion of infant car safety seats, participation in health fairs, and providing nursing scholarships are but a few of the projects being carried out in Missouri. All serve to enhance the professional image of the physician.

The MSMA Auxiliary is pleased to attend your Council meetings and to serve on several of your committees. By understanding your priorities, the Auxiliary is better able to set the wheels in motion to support your programs. We are proud to be a part of the Missouri State Medical Association team and together know we will always be on the winning side. ■



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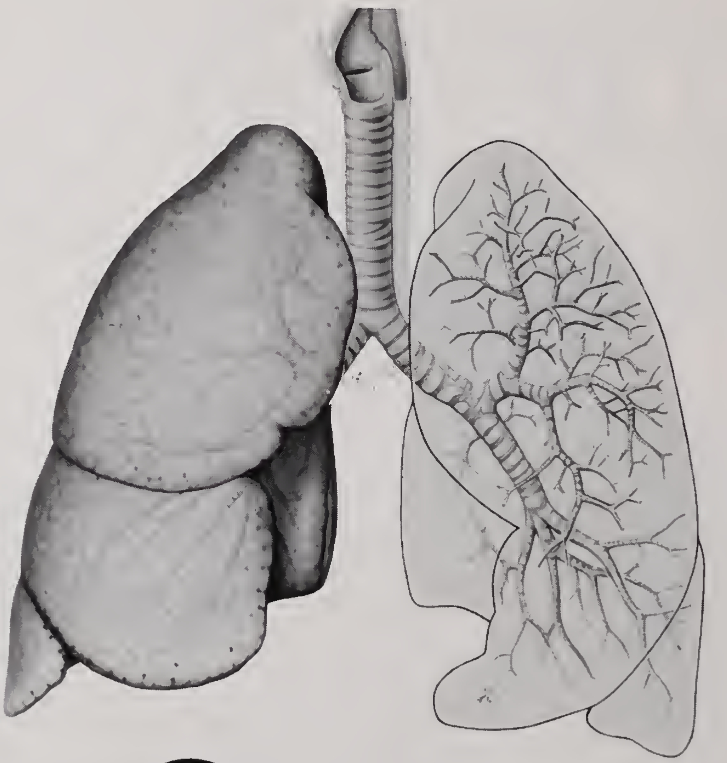

Ceclor®
cefaclor

250-mg Pulvules® t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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Motrin® 800 TABLETS mg
ibuprofen
Extra strength
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J-6138 January 1986

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.
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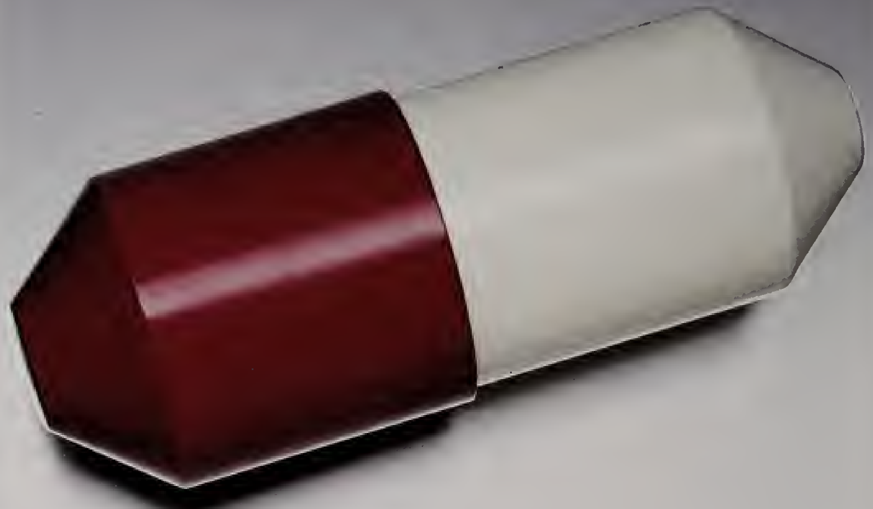

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In My Opinion

Fritz A. Byrum, M.D.

THE CASE AGAINST Unified Membership WITH THE AMERICAN MEDICAL ASSOCIATION

The 1985 MSMA House of Delegates passed a resolution requiring the MSMA Constitution and Bylaws to be changed to require that all MSMA members also be members of the AMA. A final vote on this issue will be taken at the MSMA Annual Convention, April 3-6, in St. Louis.

I read with great interest the "Case For Unified Membership" by Dr. Hubert A. Ritter. This has been a favorite issue of his for a long time and, as he is trustee of the AMA, I can understand his espousing this cause. However, I do not believe he has made his case and I think the adoption of this resolution requiring the MSMA Constitution and Bylaws to mandate AMA membership will have significant adverse effects which have not been mentioned.

I am opposed, as are most of my colleagues, to mandatory membership in anything. I oppose mandatory union membership ("closed shop") in the labor market and I oppose mandatory society membership in organized medicine. I do not dispute Dr. Ritter's statements about the good that the AMA stands for and attempts to do. Many of us, however, do not agree with many of the AMA stands on political issues and those disagreements as well as the ever-escalating dues structure have caused many physicians to decide against AMA membership, even though we continue to be active participants in organized medicine through local, state or specialty society memberships.

Dr. Ritter correctly states that only 44% of physicians in this country are AMA members. He does not attempt to state why 66% of physicians chose not to be members.

In my opinion, this resolution should be defeated because I think it will have exactly the wrong effect on membership in organized medicine. I believe it will result in many members of the county societies and in the MSMA dropping out of those societies rather than having the AMA membership rolls increase as is hoped. Some of us who belong to local, state, and national societies and to one or more specialty societies will be forced to pay a combined dues sum of well over $1,000 a year. Many do so today because they *chose* to do so and are active in their participation. Many more participate in some but not all of those societies because they *chose* not to belong to some. We have traditionally espoused the right of free choice in this country and the right of assembly is one of our constitutional heritages. Forced association and mandated participation is wrong, will provoke withdrawal and loss of members rather than gain, and should be defeated by the MSMA at its next session.

Dr. Byrum is a family practitioner in Ballwin, Missouri.

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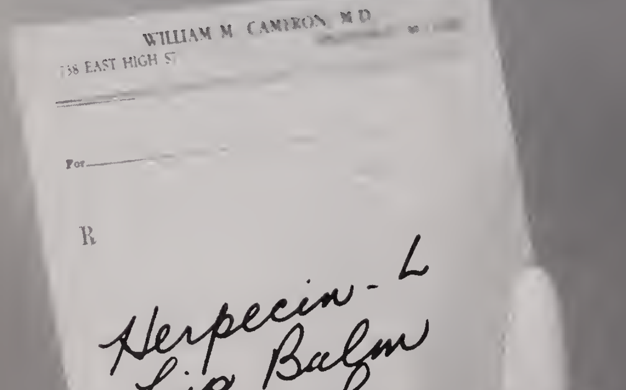

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Unified Membership

Proposed Constitution and Bylaw Changes

At the 1985 Annual Convention of the Missouri State Medical Association, the House of Delegates adopted a resolution calling for the MSMA to unify its membership with the American Medical Association.

Below are the Constitution and Bylaw changes proposed by the Committee on Constitution and Bylaws. These changes, along with other changes which address the creation of a resident physicians section, the Committee on the Impaired Physician and the election of officers, will be voted upon by the full House of Delegates during the 128th MSMA Annual Convention, April 3-6, at the St. Louis Marriott Pavilion Hotel.

Bracketed words are to be deleted. Underlined words are to be added.

I. Unified Membership

At the 1985 Annual Convention of the Missouri State Medical Association, the House of Delegates adopted the following amended Resolution #2.

> RESOLVED, that the Constitution and Bylaws of the MSMA be changed whereby all members of MSMA shall also be members of AMA unless they are already members of the American Osteopathic Association; and be it further
>
> RESOLVED, that full and ample discussion of this important issue occur in each of the Councilor Districts and all of the component societies to the end that this action shall be brought before the House of Delegates during the first session of the 1986 Annual Convention of this Associaton.

Information since received from the AMA indicates that the language contained in the amendment to the resolution, exempting AOA members from the AMA membership requirement, does *not* constitute unified membership.

As the intent of the original resolution was unification of MSMA membership with AMA membership, this Committee suggests the following wording to fulfill the Council's original intent.

Constitutional Change

Article III. Membership.

Membership in this Association shall be limited to and include all members in good standing in both the component societies which hold charters from this Association and the American Medical Association.

Bylaws Change

Chapter I. Membership.

Section I. Members of this Association shall be those individuals whose names have been certified by secretaries of component societies to the Secretary of this Association that they are duly elected members of a component society and are legally qualified physicians practicing in Missouri, except as otherwise provided. Each member must be of good moral and professional standing, and must not support, nor practice, nor claim to practice any exclusive system of medicine. Each member shall also be a member of the American Medical Association.

II. Resident Physician Section

At the 1985 Annual Convention, the House of Delegates referred Bylaws changes creating an MSMA Resident Physician organization to the Council for additional rewriting. The Committee on Constitution and Bylaws was charged with making the requisite changes.

Also at the 1985 Convention, the House adopted Constitutional amendments regarding the new Resident Physician Section which, having lain over for a year, are now due for a final vote in the House. Both the rewritten Bylaws and the Constitutional changes are presented here.

Bylaws Changes

Chapter IX. Resident Physicians Section

Section 1. Membership. The Resident Physicians Section shall be composed of Resident Members of the Missouri State Medical Association who are serving in approved training programs and who are active members of a component medical society. Residents may be direct members of the Resident Physicians Section if the component society where the Resident resides or practices permits direct membership.

(a). Governing Council. There shall be a Governing Council for the Resident Physicians Section. The Governing Council shall consist of the officers of the Resident Physicians Section and two members-at-large of the Section. All members of the Governing Council must be Resident Physician members of the Missouri State Medical Association elected by the members attending the Business Meeting of the Resident Physicians Section.

1. Duties. The Governing Council shall direct the programs and the activities of the Resident Physicians Sections.

2. Vacancies. Any vacancy occurring on the Governing Council shall be filled at the next Business Meeting of the Resident Physicians Section.

Section 2. Officers. The members attending the Business

Meeting of the Resident Physicians Section shall elect the following officers, who shall have these duties and responsibilities:

(a). Chairman. The Chairman shall preside at all meetings of the Governing Council and the Business Meetings of the Resident Physicians Section.

(b). Vice Chairman. The Vice Chairman shall preside at meetings of the Governing Council or the Business Meetings of the Resident Physicians Section, in the absence of the Chairman or at the request of the Chairman.

(c). Secretary. The Secretary shall maintain such records as are required or advisable for the conduct of the activities of the Resident Physicians Section.

(d). Delegate and Alternate Delegate. The Delegate and Alternate Delegate shall represent the Section in the MSMA House of Delegates.

Section 3. Business Meeting. There shall be a Business Meeting of members of the Resident Physicians Section. The Business Meeting shall be held on a day prior to each Annual Meeting of the House of Delegates.

Section 4. Rules of Order. Only members of the Resident Physicians Section shall have the right to vote, but the meetings shall be open to any member of the Missouri State Medical Association. The meeting shall be conducted pursuant to established rules of procedure adopted by the Governing Council.

Section 5. Purposes of the Meeting. The purposes of the meeting shall be:

(a). To hear such reports as may be appropriate.

(b). To elect a Chairman who shall serve until the conclusion of the next Annual Meeting.

(c). To elect other officers of the Resident Physicians Section and two members-at-large of the Governing Council. Those elected shall assume office at the conclusion of the Annual Meeting at which they are elected and shall serve until the conclusion of the next Annual Meeting.

(d). To consider and vote upon such matters as may properly come before the meeting. Subsequent Chapters to be renumbered.

Additional Bylaw Changes

The following additional changes will also need to be made in the Bylaws, assuming the foregoing Chapter is adopted.

Chapter I, Section 3. Resident [Junior] members shall be limited to those members of the Resident Physicians Section [component societies] who are serving a full-time postgraduate training program in a hospital approved by the American Medical Association and shall enjoy all of the privileges of active membership.

Chapter III, Section 4. The Resident Physicians Section shall be entitled to send each year six delegates elected by the Section to the House of Delegates at the Annual Convention. Each delegate shall be a member in good standing with this Association. Such resident delegates shall enjoy all rights and privileges of all other delegates. Remaining Sections to be renumbered.

Chapter IV, Section 1. The President, on the first day of the Annual Convention, shall select a Committee on Nominations consisting of thirteen [eleven] delegates, one from each Councilor District, [and] one from a medical school component society [.] , one from the Hospital Medical Staff Section and one from the Resident Physicians Section. The Committee on Nominations shall determine that proposed candidates for office are qualified and willing to serve and shall report to the House of Delegates in the form of a ticket containing the names of one or more members for each of the officers listed in Article VIII of the Constitution, which are to be filled at the Annual Convention, excepting the Secretary and Treasurer who are elected by the Council from the general membership.

Chapter IV, Section 7. Delegates from the Resident Physicians Section shall combine and elect one Councilor and one Vice-Councilor. The duly elected Councilor and Vice-Councilor from the Resident Physicians Section shall serve on an annual renewable basis. Remaining Sections to be renumbered.

Chapter IX, Section 1. (a). The Annual Dues of this Association shall be $150 which shall be applicable to each active member of the Association beginning in 1985 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $75 for the first calendar year and shall be active members; the per capita levy for resident [junior] members shall be $10 per year; student members shall not be required to pay dues; honor members shall not be required to pay dues. Dues shall be payable on January 1 of the year for which they are levied.

Chapter IX, Section 3. The House of Delegates may, when in its judgment the best interest of the Association demands, recommend an assessment on each active, resident [junior] and student member. Such assessment shall be levied only by consent of two-thirds of the members of the House of Delegates present and voting. Funds obtained from such special assessment shall be allocated only for the purposes for which such assessment is levied and in accordance with substantiating budgets. Unexpended balances from such assessments must be reported to the House of Delegates for reallocation.

Chapter XII, Section 7. At some meeting in advance of the Annual Convention of this Association, each component society, the Hospital Medical Staff Section, and the Resident Physicians Section shall elect one or more delegates and an equal number of alternates to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2 [or], 3 , 4 or 5 of these Bylaws. The secretary of each component society, the Hospital Medical Staff Section and the Resident Physicians Section shall send a list of such delegates and alternates to the Secretary of this Association at least sixty days before the Annual Convention. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Constitutional Changes

Assuming the foregoing changes are accepted, the following changes will need to be made in the Constitution. (Words to be added are underlined; words to be deleted are bracketed.)

Article V. Council.

The Council shall be the executive body of this Association when the House of Delegates is not in session. It shall consist of the President, President-Elect, Immediate Past-President, Secretary, and Treasurer, [and] the duly elected Councilors from each Councilor District, and [a duly elected medical student Councilor.] the duly elected Councilors from the medical student component societies, the Resident Physicians Section and the Hospital Medical Staff Section.

Article VIII. Officers.

Section 2. The Officers shall be elected annually. The term of Councilors and Vice-Councilors shall be two years except for the duly elected medical student Councilor, resident physician Councilor and hospital medical staff Councilor, who shall each be elected for a one-year term. Half of the membership of the Council shall be elected each year. The Secretary and Treasurer shall be elected by the Council from the general membership. The delegates from each Councilor District shall meet prior to the last day of the Annual Convention and elect the Councilors and Vice-Councilor from that district. The Delegates from the medical school component societies, the Resident Physicians Section and the Hospital Medical Staff Section shall meet prior to the last day of the Annual Convention and elect [a medical student] their respective Councilor and Vice-Councilor. In the event of death, resignation or removal of any Councilor, the Vice-Councilor shall automatically fill the vacancy. The officers shall serve until their successors are installed.

III. Impaired Physician Committee

On referral from the MSMA Council, the Committee on Constitution and Bylaws considered amendments to the Association Bylaws that alter the makeup of the MSMA Committee on the Impaired Physician.

Chapter VII. Committees and Commissions.
Section 1. The Committee on the Impaired Physician shall consist of [five] members of the Association appointed by the President for a term of three years. [Two members shall be appointed for three years, two for two years, and one member for one year. As the term of each expires, his successor shall be appointed for a term of three years.] The Committee on the Impaired Physician shall plan and execute programs of professional assistance for members of this Association who may require assistance to continue or return to their profession activities.

IV. Election of Officers Bylaw Changes

The Committee on Constitution and Bylaws, at the request of the Speaker of the House of Delegates and the MSMA Council, studied changes in the Bylaws that would bring the written procedures for nominating and electing Association officers into conformity with what have become, by tradition, accepted procedures.

Currently, election of officers is accomplished by voice vote. However, the Bylaws, as they now stand, require a written ballot. The Committee suggested the following change in the Bylaws to correct the discrepancy.

Chapter IV. Election of Officers.
Section 2. All contested elections shall be by written ballot. A majority of the votes cast shall be necessary to elect.

V. Committee on Nominations Bylaw Changes

Another "traditional" procedure that has been followed without benefit of Bylaws guidelines is the timing of the report of the Committee on Nominations. The Bylaws currently provide for this report to be given at the final (third) session of the House of Delegates. However, actual practice of the House has been to hear this report at the second session.

The Committee submitted the following changes to bring the Bylaws and actual procedure into agreement (words to be added are underlined; words to be deleted are bracketed):

Chapter III. House of Delegates.
Section 10. The following shall be the general order of business of the House of Delegates for the first session of the Convention.

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll Call.
4. Reading and adoption of minutes.
5. Report of officers.
6. Report of committees.
7. Unfinished business.
8. New business.

The following shall be the general order of business of House of Delegates for the last session of the Convention.

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll Call.
4. Reading and adoption of minutes.

[5. Report of the Nominating Committee.]
[6.] 5. Election of Officers.
[7.] 6. Reports of Officers.
[8.] 7. Reports of Committees.
[9.] 8. Unfinished business.
[10.] 9. New business (see Chap. III, Sec. 1).
[11.]10. Installation of Officers.
[12.]11. President's appointments and installation of members to committees.
[13.]12. Selection of the place for the next Annual Convention.

At any session of the House of Delegates, the order of business may be changed by a two-thirds affirmative vote of the members present and voting.

Chapter IV. Election of Officers.
Section 1. The President, on the first day of the Annual Convention, shall select a Committee on Nominations consisting of eleven delegates, one from each Councilor District and one from a medical school component society. The Committee on Nominations shall determine that proposed candidates for office are qualified and willing to serve and shall report at the Second Session to the House of Delegates in the form of a ticket containing the names of one or more members for each of the officers listed in Article VIII of the Constitution, which are to be filled at the Annual Convention, excepting the Secretary and Treasurer who are elected by the Council from the general membership.

The Committee emphasized that this language, as was originally intended, does call for the nomination of the President-Elect with the rest of the slate. Traditional practice has been to nominate the President-Elect separately, from the floor, at the final session of the House. The Committee, acting on recommendation from the Council and the Speaker of the House, supports a return to the procedure provided for in the Bylaws; namely, nominating the President-Elect with the rest of the slate of officers.

Assuming these changes are accepted, one other Bylaw change would be required.

Chapter III. House of Delegates.
Section 1. At the second session of the House of Delegates, introduction of Resolutions would be allowed only if approved by two-thirds of the delegates voting. [The House of Delegates shall meet on the last day of the Annual Convention to receive the report of the Nominating Committee and complete unfinished business and the election of officers.] The same procedure with regard to resolutions would be followed at the last [that] session, but it would then take a unanimous vote of the House to allow such introduction. At the descretion of the Speaker, these conditions would not apply for resolutions of good wishes, condolences, congratulations and others of a personal nature. ■

UNIVERSITY OF MISSOURI-KANSAS CITY SCHOOL OF MEDICINE

A Message from the Dean

Medical education as we know it today in the United States has evolved over a timespan of three quarters of a century. Like Halley's Comet in 1910, the Flexner Report in that same year came on the medical horizon to astonish and galvanize medical educators. The reforms that followed moved medical education in this country from the realm of the proprietary "diploma mill" to the university-based, research environment which today delivers medical education of the highest quality.

Recently, however, educators have raised serious questions concerning some of our present-day concepts of physician training. Are the doctors graduating from our universities compassionate individuals who care about their patients? Are they properly trained to be lifelong learners? In using the tools and instruments of the new technology, do they judiciously consider the risks involved and the cost benefits of a particular approach to diagnosis and treatment? Is the present modality of educating physicians cost effective?

In an attempt to answer these questions, and to chart new directions in training physicians for the 21st century, the Henry J. Kaiser Family Foundation in 1981 commissioned the Association of American Medical Colleges (AAMC) to undertake a three-year study and prepare a report of its findings. Almost 75 years after the Flexner Report, the AAMC's report, The General Preparation of the Physician (GPEP), does suggest a new direction for medical education. Whether the traditionalists will respond to its sweeping recommendations is as yet an unanswered question.

On carefully examining the GPEP Report, it is apparent that many of its conclusions closely parallel the philosophy of Dr. E. Grey Dimond's "Academic Plan for the UMKC School of Medicine," initially published in 1970. Like UMKC, GPEP has called attention to a model which: (1) suggests better integration of the curriculum in the "premedical" years with that in medical school; (2) de-emphasizes didactic lectures and encourages interactive learning techiques using small-group teaching; (3) encourages an early exposure to clinical training and a better integration of basic sciences with clinical education; (4) places a strong emphasis on the importance of the humanities in the training of physicians.

In the past year, Harvard and Brown Universities have visited UMKC to study our six-year model; these prestigious institutions are establishing new programs in medical education which provide similar, early-entry type programs. And in January of this year, the University of Alabama sent word that it was considering a combined, baccalaureate medical-degree program.

And so the trend continues. Undoubtedly, medical education will change in the future to adapt to the needs of those who require and provide medical treatment. Our challenge at the UMKC School of Medicine is to remain in the forefront of medical education innovation, and to provide the best in educational opportunities for our students.

With this special issue of *Missouri Medicine*, we appreciate the opportunity to inform the physicians of Missouri about our School and our educational philosophy.

Harry S. Jonas, M.D.
Dean
UMKC School of Medicine

Comparisons of the GPEP Report and UMKC's Program

CONCLUSION 1:
Purposes of a General Professional Education
Recommendation 1: Shifting Emphases
GPEP
". . . emphasize the acquisition of skills, and attitudes . . . to the same extent as acquisition of knowledge. . . . "
UMKC
early exposure/clinical medicine
UMKC environment/non-competitive learning

CONCLUSION 2:
Baccalaureate Education

Recommendation 1: Broadening Preparation
GPEP
". . . achievement of a baccalaureate education that encompasses broad study in the natural . . . social sciences, and in the humanities."
UMKC
integrated curriculum/liberal arts, basic sciences
clinical medicine

Continued on p. 80

Special UMKC Issue

Different Actors, Same Play

E. Grey Dimond, M.D.
Provost Emeritus for the Health Sciences
University of Missouri-Kansas City

Two recent news items caught the eye, both health-related and causing thoughtful analysis.

The first, the closure by the trustees of Emory University of its School of Dentistry. No scaling down of class size, no tightening the budget — just elimination of the entire degree, Doctor of Dental Surgery, from the roster of Emory University.

The other item was an announcement by the head of the Medical Bureau of the United States Navy that the Navy was ending its physician-assistant program. Not only was there no need for such assistance, to the physician, but the Navy also announced it had too many physicians. The article identified that there was a surplus of 150 physicians on duty in the Navy and without assignment. There was particularly a surplus among internist and radiologists. The physician-assistant program was to be stopped, those in the program "grandfathered," *i.e.* would remain in the service until normal retirement. The 150-physician surplus was a real dilemma because most of these men owed the Navy pay-back time for their medical education and there were still more physicians in this pipeline. Pipelines take time to shut down.

Did Emory close its dental school because it could not afford to operate it? Emory is a private school, not underwritten by Georgia taxpayers, but it does attract immense gifts. One suspects the closure was a decision made logical by a diminishing number of student applicants. For more than a decade, the net income of practicing dentists has been decreasing. The number of new dentists has been growing faster than the population, too fast in fact. During these same years in which the number of dentists increased dramatically, the potential patient population dropped. This drop was both in numbers of births, but even more important was the success of good dental hygiene, good nutrition, and caries prevention. It was a simple equation: less people plus less dental disease divided by many more dentists equals under-used dentists.

These straightforward bits of arithmetic have a precision that cannot be ignored. The Emory trustees responded with what one might call surgical logic: remove the ailing part.

One hopes that other universities look for other solutions. The remarkable skills of American dentistry are precious to all of us. To close out an entire educational source may be the right answer for one or two schools but that is not a uniformly useful answer. There is a problem, true. The right answer for most dental education institutions is not to close the doors but to use this huge challenge as a stimulus to rebuild their entire curriculum.

I won't list here the obvious advantages of a direct from high school, year-round, six-year curriculum, docent role models — in other words, replication of this medical school in a dental mode.

Beyond these obvious opportunities, there is the major potential of coordinating curriculum with the medical school and defining a larger field for oral surgeons. The whole area of the head and neck with its shared anatomy, overlapping pathology, intertwining signs, symptoms, and therapy, is a valid arena for dental and medical educators to solve and perhaps develop a coordinated health care field, now missing. A triple degree: AB, DDS, MD is a natural education for the specialist in head and neck surgery.

This entire new arena of possibility for dental schools is reasonable because dentists truly almost have solved the issue for which the dental profession was created. They have come very close to eliminating the diseases which justified their skills. Of course not completely, but close enough to warrant a new philosophic analysis of their purposes. Instead of closure, the answer is one of expansion, building on the modern dentists' special skills. Other countries have schools of stomatology and the graduates are head and neck surgeons. Someplace in that direction is an exciting potential for dental educators.

The issues provoked by the story from the Navy Medical Bureau are different. A first response, a superficial response, would be to claim medical schools are overproducing and should be closed. However, disease is too universal and treatment too successful and increasing in complexity, consuming of talent, with large populations underserved and whole categories of disease not answered, that the solution lies not in closing down whole institutions but in improving the education of the product and in saturating the physician marketplace to its very maximum. Until all pseudo, quasi and cultist forms of healer are displaced by bona fide physicians, the production is not too much.

For many years the physician-assistant program helped the Navy fill the health-care gap caused by a shortage of career physicians. But now, in 1986, those shortage problems are more than solved; in fact, there are new problems. But that is life's great experiment. The problems of yesterday generated solutions, the solutions generated new problems, new solutions are fabricated and we call it progress. The fates are kind in that each person's lifetime is just about long enough to experience one good collection of problems and solutions. A generation leaves the scene and the next set of problems has a new, young and vigorous generation, quite convinced that none of this has occurred before and it is all desperately important. That is the beauty of the rhythm called living.

For those who are reading this essay and thought I was intending to discuss medical and dental professional surplus alone and what must be done about it can now turn elsewhere. For my point is not one of worrying about facts and figures (something I do enjoy doing) but instead to remind us that most of the social issues all around us are never solved but only experienced. All of us as we move on life's stage play a part in an ageless scene — different actors in the same play. Questions of have and have nots, of liberal causes versus conservative ones, dilemmas of faith against faith, race against race, nations in opposition, have no ending. What one does is buy time, using the tranquility that comes with *ad hoc* solutions. And that is perhaps the message one learns. ■

Commentary

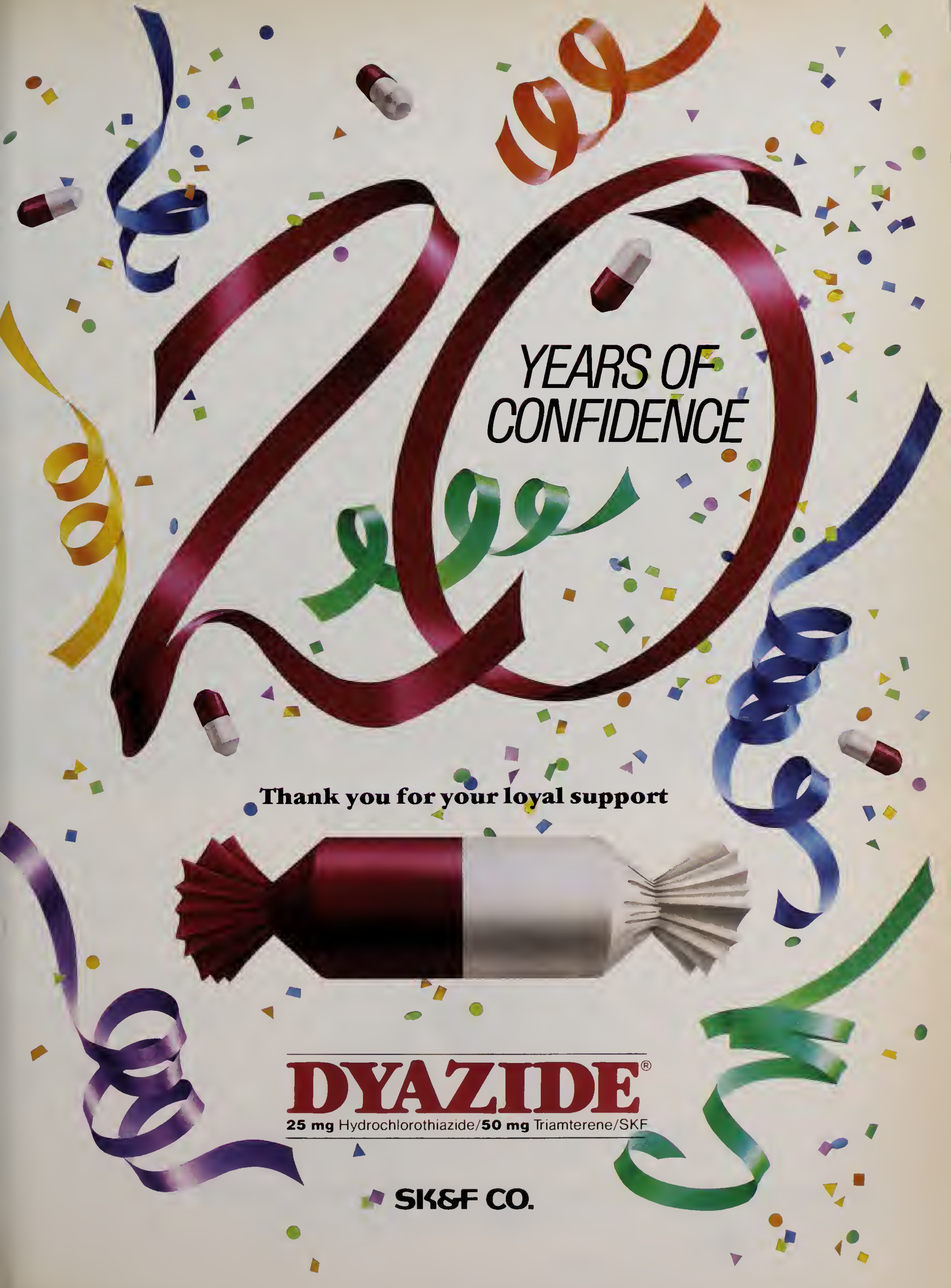
by William D. Bradshaw, M.D.
Dean, University of Missouri-Columbia
School of Medicine

I totally agree with the sage advice that Dr. Dimond is imparting and feel that it is very significant at this time.

At the moment, there appears to be considerable unrest in our medical schools with regard to their responsibilities. These responsibilities are to prepare young men and women to become physicians, further and pursuit of new knowledge, plan and run health service facilities, and maintain a balance of all of these so that the facilities are not strained in one direction or another, but do keep the balance that is necessary for schools to function properly. There is a certain tranquility that is purchased with *ad hoc* solutions, however, that tranquility is relatively short lived. As new problems are presented because of the multiplicity of buffeting factors surrounding education for professionals and paraprofessionals in medical care, life can become quite complicated.

It is indeed appropriate that we keep things in proper perspective and do not let an occasional closure of a complete school or the discontinuance of a program become so disturbing as to upset our total tranquility to the point that we become dysfunctional and do not learn the lessons that should be obvious to us.

Arnold Rellman has clearly outlined the magnitude and the complexity of the various forces which are being brought to bear on the profession of medicine. Let us remember that in the overall experience of the life of medicine, these episodes which come upon the scene have such a moving force as outlined by Dr. Dimond. "All of us as we move on life's stage play a part in an ageless scene — different actors in the same play." ■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■ GPEP Report

Continued from page 76

CONCLUSION 2:
Baccalaureate Education
Recommendation 4: Making Selection Decisions
GPEP
". . . admissions committee should make selection decisions using criteria that appraise abilities to learn independently, acquire critical analytical skills, develop values and attitudes, and contribute to society. . . . "
UMKC
MCAT (Not utilized)
admissions criteria
- high school performance/ACT/class rank
- personal interview
- interest in health care
- recommendations of faculty

CONCLUSION 3:
Acquiring Learning Skills
Recommendation 1: Evaluating the Ability to Learn Independently
GPEP
"Medical faculties should adopt evaluation methods to identify (a) students who have ability to learn independently; and (b) students who lack the drive to learn independently and challenge them to develop this ability."
UMKC
Docent system
close faculty-student relationship
small-group interactive learning

CONCLUSION 3:
Acquiring Learning Skills
Recommendation 3: Reducing Lecture Hours
GPEP
"Medical faculties should examine critically the number of lecture hours they now schedule and consider major reduction in this passive form of learning. . . . "
UMKC
didactic lecture format de-emphasized
small group discussions emphasized

CONCLUSION 3:
Acquiring Learning Skills
Recommendation 6: Incorporating Information Sciences
GPEP
"Medical Schools should designate an academic unit for institutional leadership in the application of information sciences and computer technology to the general professional education of physicians and promote their effective use."
UMKC
CAI/basic and clinical sciences
Clinical Medical Librarians
QPE
supplemental A/V learning packages

CONCLUSION 4:
Clinical Education
Recommendation 1: Defining the Purposes of Clinical Education
GPEP
"Medical faculties should specify the clinical knowledge, skills, values, and attitudes that students should develop and acquire during their general professional education."
UMKC
Docent system conveys clear learning objectives and values

CONCLUSION 4:
Clinical Education
Recommendation 3: Supervising Clinical Clerks
GPEP
"Those responsible for the clinical education of medical students should have adequate preparation and the necessary time to guide and supervise medical students during their clinical clerkships."
UMKC
strong emphasis on undergraduate clinical instruction
faculty time adequate for instruction and evaluation of clerkships

CONCLUSION 4:
Clinical Education
Recommendation 4: Evaluating Clinical Performances
GPEP
". . . develop procedures and adopt explicit criteria for systematic evaluation of student's clinical performance . . . faculty members should share timely evaluation with students; they should reinforce the strengths of their performances, identify any deficiencies, and plan strategies with them for needed improvement."
UMKC
extensive student evaluation system
faculty, peer and self evaluations

CONCLUSION 5:
Enhancing Faculty Involvement
Recommendation 1: Designating Educational Involvement
GPEP
". . . deans should designate an interdisciplinary organization of faculty members to formulate a coherent and comprehensive educational program for medical students and to select the instructional and evaluation methods to be used. . . ."
UMKC
Council on Curriculum charged with continuing review of educational program

CONCLUSION 5:
Enhancing Faculty Development
Recommendation 3: Establishing a Mentor Relationship
GPEP
"Faculty members should have the time and opportunity to establish a mentor relationship with individual students. . . . "
UMKC
Docent system/faculty role model
Docents function as:
- teachers
- counselors
- friends
- advocates ■

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Pulmonary Complications from Small-Diameter, Flexible Nasoenteric Feeding Tubes

Gary A. Salzman, M.D.
Kansas City, Missouri

Placement of small-bore, flexible feeding tubes with the aid of a metal stylet can result in inadvertent nasotracheal intubation. The pulmonary complications can be serious, as these cases illustrate. Alternative methods for nasogastric intubation are suggested.

In 1976, Dobbie and Hoffmeister[1] described a No. 8 French flexible feeding tube with a mercury tip that was designed to be passed from the nose to the stomach, eventually to advance into the upper part of the jejunum. In more than 90% of their patients, proper positioning of the tube was achieved without any special effort within the first 24 hours after introduction.[1] Unfortunately, in many institutions these feeding tubes are not so easily positioned. Often in clinical practice, the feeding tube does not pass through the pylorus and many radiographs are obtained to try to confirm the position of the tube in the small bowel. In patients who are unable to swallow, the small flexible feeding tube is difficult to pass through the nasopharynx. A metal stylet has been used to facilitate passage of these feeding tubes. I report three cases in which pulmonary complications developed after small flexible feeding tubes were passed with a metal stylet.

Case Reports

Case 1. An 81-year-old black man was admitted to the medical intensive care unit with respiratory failure requiring mechanical ventilation. He had a long history of chronic obstructive pulmonary disease with recent exacerbation from bacterial pneumonia and left ventricular failure. Passage of a small-diameter nasoenteric feeding tube (Entriflex) with a metal stylet was performed. No radiograph was performed to confirm the position of the tube. Tube feedings with Entrition at 25 mL per hour were started. After four hours, the patient became agitated, and his arterial blood gases were measured. Severe hypoxemia was noted, and a chest radiograph was obtained (Fig 1). The feeding tube was noted to pass down the right mainstem bronchus, into the right lower lobe and right pleural space. The tube feeding was stopped and the feeding tube removed. The hypoxemia was corrected by increasing the fraction of inspired oxygen (FIO_2) on the ventilator. Fiberoptic bronchoscopy was performed and revealed only minimal secretions with diffuse erythematous mucosa. Thoracentesis was performed and 50 mL of the feeding solution was removed. Subsequently the patient developed a gram negative bacterial pneumonia.

A No. 14 French silicone salem sump nasogastric tube was placed, and the patient received an adequate amount of calories from enteral feeding without further complications. He had a long, protracted course in the intensive care unit and died after four weeks of hospitalization.

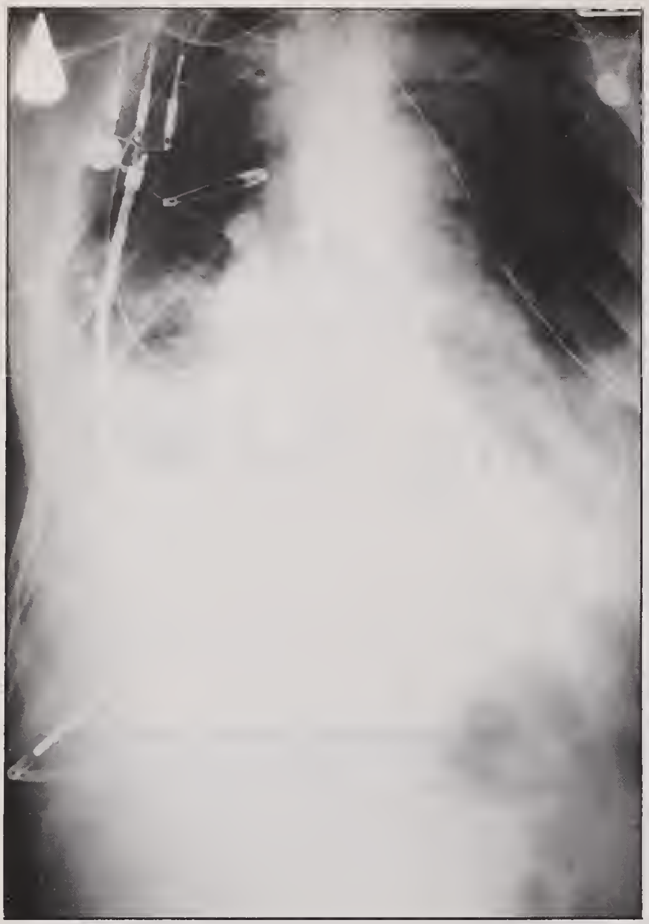

Figure 1. In Case 1, the small-diameter feeding tube traverses past the properly positioned endotracheal tube and into the right lower lobe of the lung, where the metal tip can be seen in the right pleural space.

Case 2. A 68-year-old white woman was receiving enteral nutrition following resection and radical neck dissection for squamous cell carcinoma of the floor of the mouth, when her small-diameter nasoenteric feeding tube (Entriflex) was accidentally removed. The tube was reinserted with the aid of a metal stylet. No radiograph was obtained to confirm the position of the tube. It was noted that straw-colored fluid was aspirated from the tube prior to restarting the Entrition feedings at 100 mL per hour. After 18 hours the patient was noted to be in respiratory distress with severe hypoxemia. A chest radiograph (Fig 2) was obtained. It showed the tube traversing from left mainstem bronchus into the left pleural space. The Entrition was stopped and the feeding tube was removed. The patient was endotracheally intubated and placed on mechanical ventilation. A chest tube was placed and 2 l of thick fluid was removed, with subsequent improvement in gas exchange. The patient was given total parenteral nutrition for the remainder of her hospitalization.

Her hospital course was one of progressive deterioration, and she died two months after the iatrogenic pleural effusion.

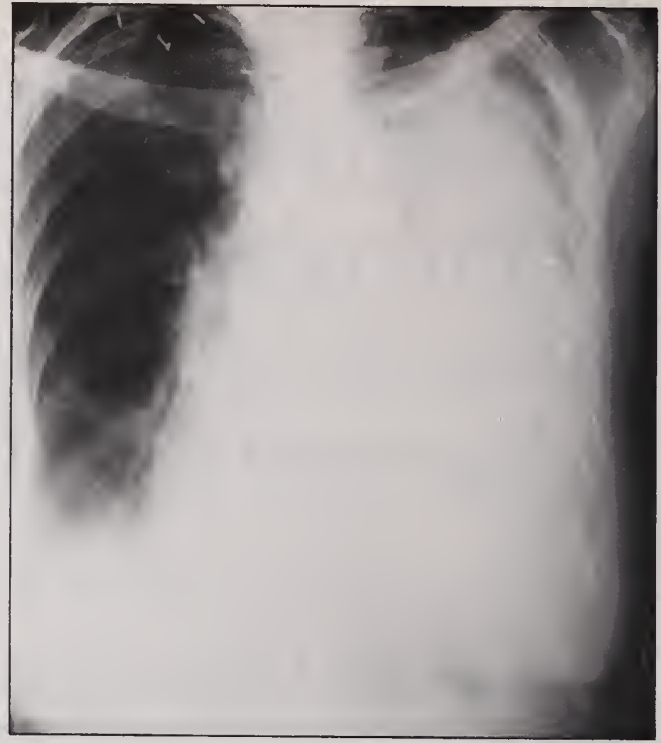

Figure 2. In Case 2, the feeding tube traverses the left mainstem bronchus and into the left pleural space where a large pleural effusion is noted.

Case 3. A 62-year-old black woman was admitted with right-sided weakness from a cerebral vascular accident. Because she was unable to take in an adequate number of calories, it was decided to begin enteral nutrition. A small-diameter nasoenteric feeding tube (Entriflex) was placed with the aid of a metal stylet. Radiographs (Figs 3, 4) were obtained to confirm the position of the tube prior to feeding. The tube was noted to traverse the right mainstem bronchus through the right pleural space and diaphragm into the retroperitoneal space. The tube was removed. The patient developed dyspnea and right-sided pleuritic chest pain. An upright chest radiograph revealed a 50% right-sided pneumothorax. A chest tube was inserted with subsequent full re-expansion of the right lung. The lung remained expanded after chest tube removal three days later. A No. 14 French silicone salem sump nasogastric tube was successfully placed without complications. Continuous nasogastric feedings with Entrition at a rate of 100 mL/hr were well tolerated throughout the rest of the hospitalization. The patient was transferred to a long-term care facility where the nasogastric tube feedings continued.

Discussion

Enteral nutritional support has been shown to promote nitrogen retention, restore cell-mediated immunity, accelerate wound healing, and improve overall nutritional status.[2] The enteral route is the preferred method of nutritional support in patients with a functioning gastrointestinal tract.[2] Nasoenteric tubes

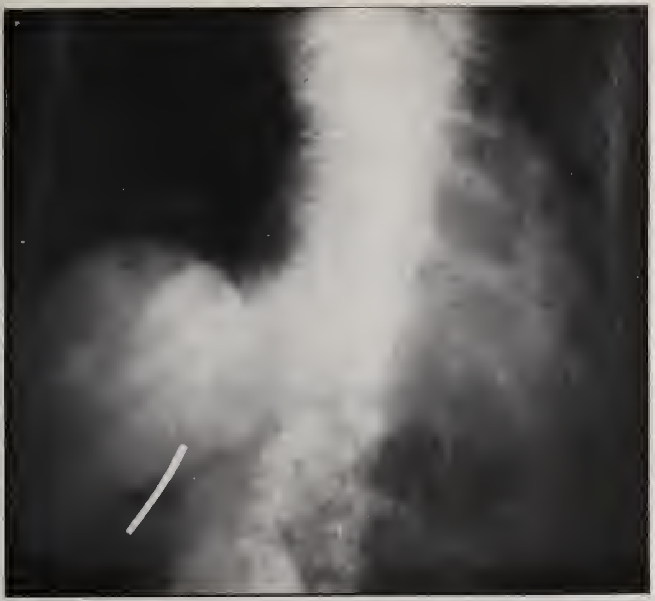
Figure 3. In Case 3, the feeding tube traverses the right mainstem bronchus through the right pleural space and diaphragm.

are used in many patients to provide nutritional support. There have been a wide variety of reported complications resulting from the placement of nasoenteric tubes. Perforations of the nasopharynx with resultant pleural effusion and pneumomediastinum have been reported.[3, 4] Inadvertent intracranial placement has been seen with maxillofacial trauma.[5, 6] Gastric and esophageal perforations have also been encountered.[7, 8]

Nasotracheal intubation with the small-diameter flexible feeding tubes placed with the aid of a metal stylet have been reported to cause iatrogenic pneumothoraces, pleural effusions, and pneumonitis.[9-12] The metal stylet makes passage of these tubes particularly hazardous. With the stylet in place, the tube becomes rigid enough to pass into the trachea and perforate the pleura. In patients with advanced age or altered mental status the gag reflex may be lost, and patients may not cough or gag during inadvertant endotracheal placement of the tube. The presence of a properly positioned endotracheal tube does not prevent the small feeding tube with the metal stylet from passing into the lungs[12] as demonstrated in Case 1. The seriousness of the pulmonary complications from inadvertent endotracheal placement of feeding tubes is demonstrated in Cases 1 and 2, where the complications eventually led to the death of the patient.

The small-diameter, flexible nasoenteric tubes were developed to reduce the local discomfort from the larger, stiffer nasogastric tubes, to decrease the incidence of pulmonary aspiration, and to improve gastrointestinal tolerance. The small tube is also able to pass into the small bowel, facilitated by its weighted tip. Because of the problems associated with passing the small feeding tubes and the cost of repeated radiographs for confirmation of the tube location, it seems appropriate to reevaluate the claimed advantages of these small tubes. Several studies address the incidence of pulmonary aspiration associated with nasogastric feedings.[2, 13] In one study, aspiration pneumonia was reported in 12.5% of 160 patients receiving feedings with a nasogastric tube.[13] After extensive review of the literature, no study comparing the incidence of pulmonary aspiration with the small feeding tube versus the standard-size nasogastric tube was found. Intuitively, it would appear that the location of the tube in the small bowel should result in a lower incidence of pulmonary aspiration than with the tube in the stomach. However, this widely accepted theory has never been proven in a controlled clinical trial. With the lack of data supporting the advantages of the small feeding tube, I would recommend using a No. 14 French silicone salem sump (Argyle) nasogastric tube. This tube is soft and flexible to minimize local discomfort, yet rigid enough to pass easily through the nasopharynx and into the stomach without the use of a metal stylet. The location of this sump tube can be confirmed by propulsion of air with auscultation and aspiration of gastric contents. The location of the small feeding tube, on the other hand, must be confirmed by a radiograph because the above measures are not reliable with the small tube. The silicon salem sump does

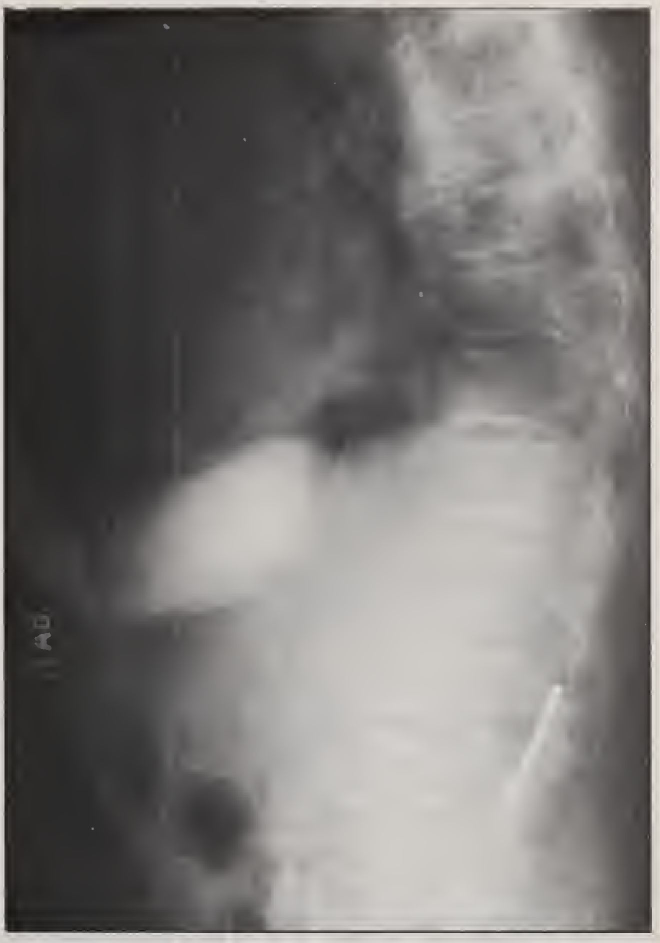
Figure 4. In Case 3, a lateral radiograph shows the metal tip of the feeding tube in the retroperitoneal space.

not become occluded and aspiration of gastric residual can be performed, unlike the small-diameter tubes which frequently become occluded. Aspiration of gastric contents is also difficult because the small tubes collapse under negative pressure.

Small-diameter flexible feeding tubes can be used safely if properly placed. The metal stylet should not be used to facilitate passage of these tubes. Radiographic verification of tube location prior to usage should always be done. If resistance is encountered while passing the tube, suspect misplacement and do not use force to pass the tube. Placement of the small-bore tube in the small intestine under fluoroscopic guidance is a safe, cost-effective alternative to blind insertion. The No. 14 French silicone salem sump nasogastric tube may offer advantages over small-diameter feeding tubes.

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Viridans Streptococcal Endocarditis

Lessons We've Learned from the Animal Model

Lawrence Dall, M.D., Dorothea Shields, M.S., and James Stanford, M.D.
Kansas City, Missouri

Since its first description in 1885, bacterial endocarditis has become a less-threatening entity, thanks to antimicrobial drugs. The animal model of viridans streptococcal endocarditis has provided much of what is presently known about the disease, its pathogenesis, and its treatment.

Bacteria were first assigned an etiologic role in endocarditis in the 19th century. In 1909, Osler noted "with carefully made blood cultures one should now be able to determine the presence of septicemia. The blood cultures and the presence of painful erythematous nodules and the occurrence of embolism furnish the most important aids in diagnosis."[1] Even though the natural and clinical history were carefully observed, mortality remained high. With the introduction of antibiotics, the outlook became much more favorable.

At least 45% of all cases of infective endocarditis are caused by viridans streptococci. Today, endocarditis remains a complex problem, posing difficulties in diagnosis, treatment and prevention. Animal models, which have been in existence over a hundred years, have afforded us insights helpful in surmounting many of these difficulties.

The first descriptions of animal models were in the early 1900s by Horder,[2] Kinsella,[3] and Muether.[3] The early models could not predictably initiate infection, and the mortality rate of the animals was high. In 1970, Garrison and Freedman[4] described a procedure which, with some modification by Durack and Beeson,[5] has become the standard model for the study of experimental endocarditis.

The current model uses New Zealand white rabbits. A plastic catheter is inserted into the carotid artery and advanced across the aortic valve. The catheter traumatizes the aortic valve and predisposes the valve to infection. Bacterial endocarditis is then induced by injecting an inoculum of bacteria through the marginal ear vein. Endocarditis can be predictably produced after only five minutes of traumatization of the aortic valve if an adequate inoculum of bacteria is given.

The size of the initial inoculum is varied depending on the species of bacteria. Viridans streptococci, the most common cause of endocarditis in congenital or rheumatic heart disease, requires an inoculum of $10^{4.67}$ organisms, while an organism which rarely causes endocarditis, such as *Escherichia coli,* requires an inoculum of $10^{6.29}$ organisms.[6]

The experimental model of endocarditis has the advantages of being inexpensive, versatile and simple to use. One can accurately control the timing of onset of infection, and the dosage and timing of antimicrobial treatment. In addition, endocarditis in rabbits produces pathologic changes in heart valves that resemble those found in the human infection.

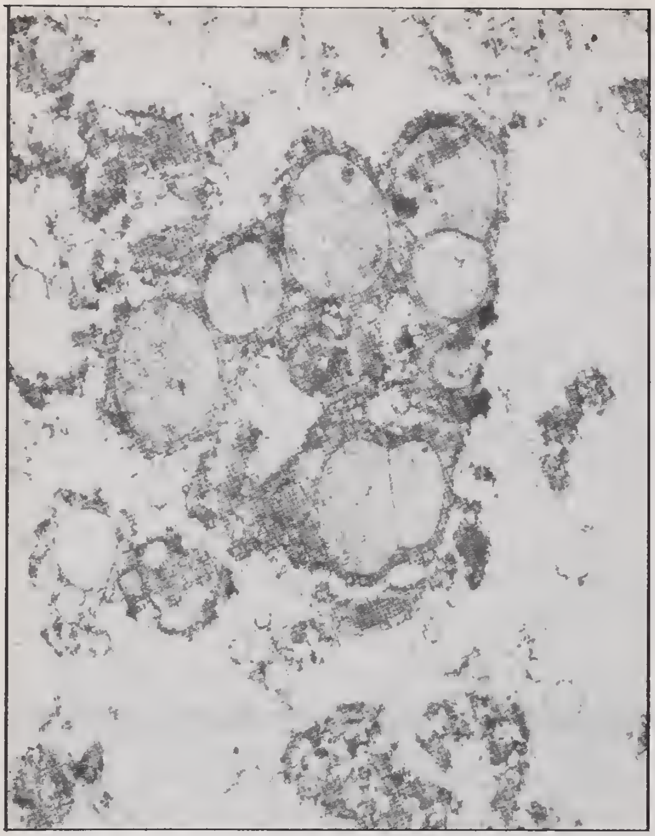

Figure 1. Transmission electron micrograph of a ruthenium red-stained endocardial vegetation.

Pathogenesis

The pathogenesis and pathophysiology of viridans streptococcal endocarditis has been investigated by many researchers in this animal model. Scheld et al[7] have elegantly examined factors pertaining to the initiation of endocarditis. Their studies indicate that viridans streptococci that have the ability to produce dextran (exopolysaccharide) have an advantage in adhering to damaged rabbit aortic valves over those that do not produce dextran. The exopolysaccharide apparently gives the organisms a stickiness that promotes their adherence to damaged heart valves. This exopolysaccharide production does not increase adherence to normal cardiac valves. If dextran production is interfered with by dextranase use, the ability to induce endocarditis in rabbits drops from 78% to 25%.[7]

To check the hypothesis that dextran-producing viridans streptococci are more likely to induce endocarditis, we evaluated clinical isolates obtained from endocarditis patients from the Mayo Clinic, San Francisco General Hospital and Truman Medical Center, Kansas City, MO, for dextran production both in vitro and in vivo by methods previously described.[8] Of the 52 isolates investigated, 49 were found to be abundant dextran producers, while the remaining three produced only small amounts of dextran. These data agree with the animal data that dextran production is important in the initiation of endocarditis.

Table 1

Cardiac Vegetations Sterilized By Penicillin Therapy

	*Sterilized 2 days with penicillin**		*Sterilized 5 days with penicillin**	
Dextran Production	#	%	#	%
POSITIVE	0/14	0%	0/17	0%
NEGATIVE	12/13	92%	17/17	100%

*300,000 units procaine penicillin INTRAMUSCULARLY BID

In addition to adherence, the initiating step of endocarditis, we examined the ability of dextran to retard sterilization of infected cardiac vegetations by antimicrobials. Figure 1 shows a small microcolony of streptococci in a cardiac vegetation surrounded by a dark-staining material (dextran). We reasoned that this material may provide bacteria with a mechanical barrier to antimicrobial agents and host cell defenses. Dextran-producing organisms were found to produce vegetations that could not be sterilized within five days of penicillin therapy, while non-dextran-producing infections could be sterilized in two days.[9] (See Table 1).

Early work with dextran-digesting enzymes in combination with penicillin has indicated that dextran is indeed a mechanical barrier to antibacterial drugs. In these studies, vegetations were reduced in size and were able to be sterilized more quickly. We postulate that this enzymatic destruction of dextran allows penicillin to penetrate the vegetation more quickly, thereby causing the faster sterilization.

Treatment

The treatment of viridans streptococcal endocarditis has been investigated extensively in the rabbit model. The use of prolonged penicillin therapy alone was sufficient to end the infection.[10] If an aminoglycoside was added to penicillin, the vegetations were sterilized more rapidly.[11] In the animal model, infections treated with penicillin alone would be sterilized in seven to 10 days, while the addition of gentamicin or streptomycin shortened this period to three to four days.

These observations from the experimental model allowed clinical trials to follow. Wilson et al[12] compared the efficacy of four weeks of penicillin vs. two weeks of therapy of penicillin and streptomycin. It was found that these regimens were equally effective, with a relapse rate of less than 1%.

An enormous financial savings can result, since the length of hospitalization can be markedly shortened. (See Table 2).

Many other therapeutic dictums have been learned from this model. The avoidance of bacteriostatic agents and their antagonism with penicillin has been demonstrated.[13] When bacteriostatic antimicrobials

Table 2

Treatment of Endocarditis Due To Pencillin-Sensitive Viridans Streptococci

	ANTIBIOTIC	*DURATION*
1.	IV Aqueous crystalline pen G (10-12 million units/day)	4 weeks
2.	IV Aqueous pen G (10-22 million units/day)	4 weeks
	or	
	IM Procaine pen G (1.2 million units IM q 6 hrs.)	4 weeks
	plus	
	Streptomycin (500 mg IM q 12 hrs.)	2 weeks
3.	IV Aqueous pen G (10-20 million units/day)	2 weeks
	or	
	IM Procaine pen G (1.2 million units IM q 6 hrs.)	2 weeks
	Streptomycin (500 mg IM q 12 hrs.)	2 weeks

are used, vegetations are found to have significantly higher titers of bacteria. The concept that tolerance may lead to therapeutic failure has been examined by Pulliam et al.[14] Tolerance is present when the concentration of penicillin required to inhibit bacterial growth is low, but the concentration required to kill the bacteria is high and usually out of the therapeutic range. Pulliam showed that none of the rabbits infected with a tolerant strain of viridans streptococci was cured with five days of penicillin therapy alone, while 50% of the animals were cured after five days of penicillin plus streptomycin. Wilson[15] confirmed that tolerance is an important problem in viridans streptococci, for among 147 patients treated at the Mayo clinic for endocarditis during a 12-year period, 18% of the viridans streptococci were tolerant. In the animal model, the addition of streptomycin to penicillin significantly increased ability to sterilize vegetations caused by these tolerant strains. These animal studies support the use of combined therapy for endocarditis caused by tolerant streptococci.

Prophylaxis

Prevention of viridans streptococcal endocarditis has been studied extensively in the animal model by Durack and Petersdorf.[16] Most of the recommendations today come from the data obtained from these models. Animal studies by Southwick and Durack[17] have suggested that bactericidal drugs are required for successful prophylaxis. The efficacy of different antibiotics against viridans streptococci has also been demonstrated in animal experiments. Penicillin plus streptomycin or vancomycin alone are highly effective treatments, while penicillin-only therapy requires a high initial dose plus several follow-up doses. Erythromycin was found to be of intermediate efficacy. These studies supplied the necessary data for prophylactic recommendations by the American Heart Association. (Table 3).

Table 3

Prophylaxis For Procedures That May Cause Viridans Streptococcal Endocarditis*

1. Aqueous crystalline pen G (1,000,000 units IM)
   + Procaine pen G (600,000 units IM)
   (30 to 60 min prior to procedure)
   then
   pen VK 500 mg po q 6 hrs × 8 doses
2. Pen VK (2.0 gm po 60 min prior to procedure)
   then
   pen VK 500 mg po q 6 hrs. × 8 days
3. Penicillin Allergic: Erythromycin 1.0 gm po 90 mins prior to procedure then 500 mg po q 6 hrs. × 8 doses

*most congenital heart disease, rheumatic heart disease, IHSS, mitral valve prolapse

In addition to the advantages outlined, the rabbit endocarditis model has some drawbacks. The trauma induced to the valve in animals is artificial and different from that seen in congenital or rheumatic heart disease. The plastic catheter represents a foreign body that would not be present in a human infection except in prosthetic valve endocarditis. The rabbit model may also present a more severe infection than human endocarditis, as death is more rapid in untreated animals than in untreated humans and the magnitude of bacteremia is greater in animals. Finally, animal infections are produced by a large inoculum of bacteria administered intravenously, while human infections are initiated by a smaller inoculum, which is rarely introduced intravenously as a single large dose except in drug abusers.

Due to some of the drawbacks of the rabbit endocarditis model, caution should be taken in correlating these data to the human infection. However, the correlation between animal data and human data in viridans streptococcal endocarditis has been remarkably good. Much of the basis for treatment and prophylaxis of clinical infections has been gained from the rabbit model.

Future directions include continued investigation of the pathogenesis and pathophysiology so therapy can be improved, complications reduced, and prevention made easier. The possibility of outpatient management of endocarditis with extended half-life antimicrobials is currently being evaluated by many investigators using the rabbit model. Different ways of blocking adhesion to cardiac valves, thereby blocking initiation of endocarditis, are also being explored.

If future studies continue to yield information as meaningful as that of past studies, we will undoubtedly continue to gain necesary background data for human studies as well as clinically relevant insight from this animal model of endocarditis.

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Temporomandibular Joint Disorders

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Symptoms of pain and dysfunction of the temporomandibular joint (TMJ) present a diagnostic challenge for the physician and dentist. Various causes of TMJ disorders, their diagnosis and management are presented.

Patients who present with symptoms of pain and/or dysfunction in or around the temporomandibular joint (TMJ) comprise approximately 20% of the population of this country.[1]

Pain about the head and neck remains a diagnostic and therapeutic challenge for the doctor who works in the disciplines of neurology, otorhinolaryngology, ophthalmology, psychiatry, psychology, internal medicine, general dentistry, orthodontics, and oral and maxillofacial surgery. Oliver Wendell Holmes once said, "If one wishes to challenge a student, then give him a headache to (manage) diagnose." This statement is as true today as it was last century.

The clinician who chooses to work with patients who suffer from head and neck pain must not only have basic knowledge in anatomy, physiology, and pathology; but also the knowledge and courage to refer the patient to an appropriate practitioner at the proper time. The physician should be aware of the signs and symptoms of the various abnormalities, "syndromes," pathological entities, and stressors that can lead to pain and/or dysfunction of the TMJ and its surrounding anatomic structures. The factors associated with pain and/or dysfunction are multi-causal and can be divided into predisposing, precipitating, and perpetuating.[2] The purpose of this article is to introduce the signs and symptoms as well as the pathology so that proper referrals can be initiated.

Differential Diagnosis

The diagnosis of problems which cause pain and/or dysfunction of the craniomandibular apparatus first of all depends on the ability to differentiate between true joint pathology, extra-articular conditions that mimic joint pathology and extra-articular conditions that may lead to joint pathology. The differential diagnosis also requires the knowledge of the signs and symptoms of TMJ pathology, as well as the signs and symptoms of conditions which mimic TMJ pathology.

Unfortunately, many clinicians refer to all entities that cause pain and /or dysfunction in and around the temporomandibular joint (TMJ) as the patient "having TMJ." The clinician/diagnostician needs to be more accurate in defining the abnormalities to the patient. If a true diagnosis cannot be accurately ascertained, then the patients should be told they have TMJ pain.

Accurate and precise diagnosis is often extremely difficult and complex, due to the multiplicity of causes of pain in or about the TMJ. The most common causes of facial or head pain are dental, myofacial or temporomandibular joint problems in origin. It is extremely important to delineate those causes which are internal to the TMJ, as they are frequently most conservatively managed by surgery. Pain in and around the TMJ is generally managed non-surgically. Being knowledgeable about the various causes, signs and symptoms of

Table 1

True Joint Pathology[3-4]

- ☐ Developmental Anomalies
  - — Agenesis
  - — Hypoplasia
  - — Hyperplasia
- ☐ Traumatic Injuries
  - — Dislocation
  - — Fracture
- ☐ Neoplasia
  - — Benign
  - — Malignant
- ☐ Arthritis
  - — Infectious/Inflammatory
  - — Traumatic
  - — Rheumatoid
  - — Degenerative
- ☐ Internal derangements
  - — Anterior disc displacement (with reduction)
  - — Anterior disc displacement (without reduction)
  - — Perforation of disc (with or without anterior displacement, with or without reduction)
  - — Perforation of posterior attachment to disc

facial and head pain fortifies the clinician against misdiagnosis and inappropriate therapy which could have disastrous results. The clinician must avoid tunnel vision when dealing with the diagnosis and treatment of facial pain.

Pain or dysfunction of the TMJ may be a symptom resulting from any number of disorders. The discussion of the differential diagnosis of TMJ pain and its treatment is extensive and beyond the scope of this paper, which will highlight the diagnosis of internal derangements of the TMJ.

Internal derangement refers to any abnormal anatomic relationship within the components of the temporomandibular joint: the articular fossa, the articular eminence (tubercle), the mandibular condyle, the disc (meniscus), and the soft tissue associated initimately with the joint. (Fig. 1) These components must be in balance with any anatomic system which directly or indirectly affects the TMJ, or the resultant imbalance can cause dysfunction within the temporomandibular joint.[6]

The most common internal derangements are 1) Anterior disc displacement with reduction; 2) Anterior disc displacement without reduction (closed lock); and 3) Perforation of the disc or the retrodiscal tissues (bilaminar zone).

The clinical symptoms relative to these derangements are:

Anterior disc displacement with reduction: (Fig. 2) When opening the mouth a click is present during the opening movement. This opening click occurs as the mandibular condyle slips over the posterior band of the disc and onto the central concavity. When closing the mouth, a reciprocal click occurs as the condyle head slips off the posterior band of the disc, and the disc again becomes anteriorly displaced. The disc is usually displaced in an anterior and medial direction, probably due to the pull of the superior head of the lateral pterygoid muscle and stretching or tearing of the posterior, lateral and medial disc attachments.

Table 2

Conditions/Abnormalities Which Mimic TMJ Pathology[5]

- ☐ Neuromuscular conditions
  - — Fibrositis
  - — Myofacial pain dysfunction syndrome (MPD)
  - — Craniomandibular disorders
  - — Myalgia
- ☐ Vascular pain
  - — Temporal arteritis
  - — Migraine headaches
  - — Cluster headaches
  - — Arteritis
- ☐ Neuralgia
  - — Trigeminal (tic douloureux)
  - — Other neuralgias of cranial nerves V, IX, X
  - — Atypical facial
  - — Myocardial
- ☐ Dental pulpitis and pain
- ☐ Salivary gland tumors
- ☐ Intracranial tumors
- ☐ Paranasal sinusitis
- ☐ Psychogenic disorders
- ☐ Ear pathology/pain
- ☐ Pain referred from lesions of pharynx/larynx
- ☐ Eye pain referred

Anterior disc displacement without reduction: (Fig. 3) The disc is anteriorly displaced and is not reducible upon attempted opening. The condylar head hits the disc and jams it ahead as translation is attempted, and consequently mandibular opening may be severely restricted.

Perforation between the superior and inferior joint space: The patient will hear grating, grinding or graveling sounds (crepitus) on the side of the perforation when opening and closing the mandible.

A large proportion of reducing anterior displaced discs, nonreducing displaced discs, and perforations do not produce symptoms other than noise and require no further attention or intervention. The patient, however, must be made aware of the pathology and the consequences of not seeking treatment. Some patients may develop headaches, joint pain, muscle pain, preauricular tenderness, deviation on opening, restricted mandibular opening or other restrictive or debilitating symptoms. Rational and successful treatment exists for these patients, and they should be referred to a clinician who manages patients with TMJ pain/dysfunction.

Radiographic Examination of the TMJ

The physical examination of the patient generally

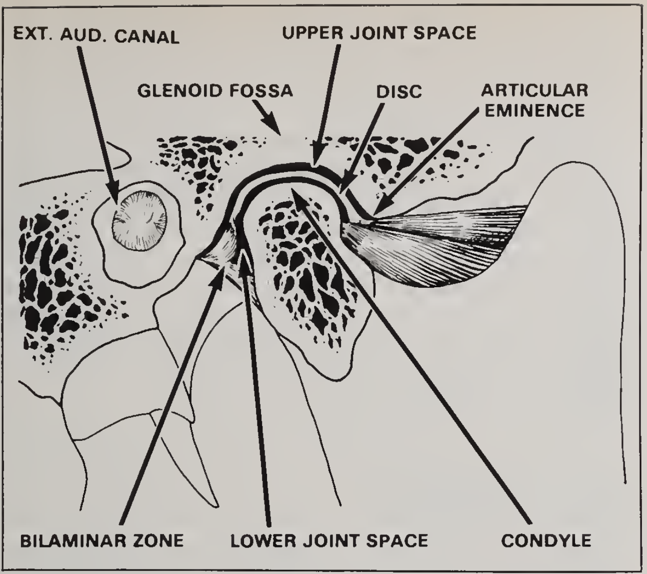

Figure 1. Anatomy of the temporomandibular joint (TMJ). Note how the superior belly of the external pterygoid muscle attaches to the disc and the inferior head to the condyle.

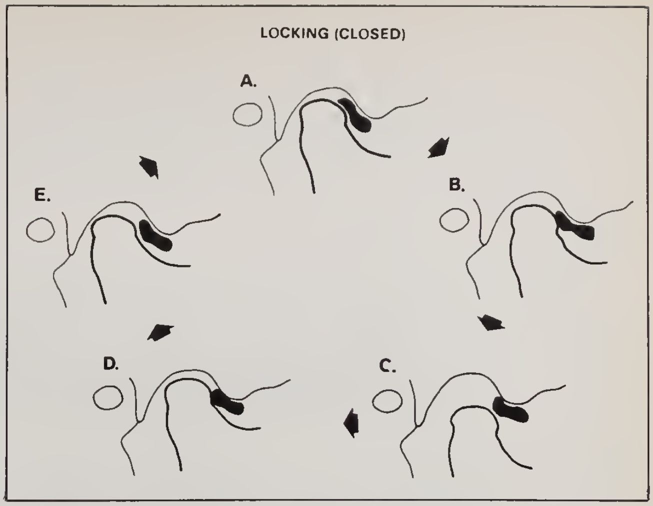

Figure 2. Anterior displaced disc without reduction (closed lock). The head of the condyle pushes the disc further out of position, frequently causing deformity of the disc. At rest, the condyle impinges on the retrodiscal tissues (bilaminar zone), which are highly vascularized and highly innervated — frequently causing intense pain.

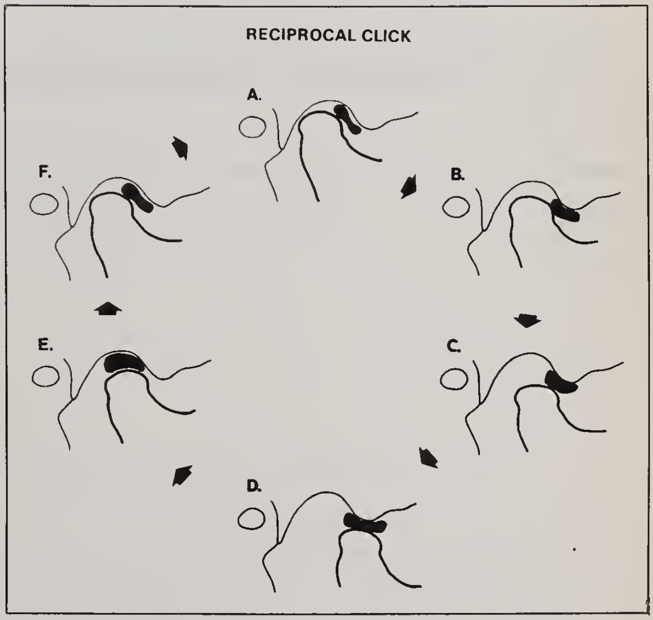

Figure 3. Anterior displaced disc with reduction. Note how the condyle jumps over the posterior band of the disc and into the central concavity. As the condyle jumps this band, it produces a pop or click, both on opening and closing.

allows the most accurate description of the pathology in most cases of internal derangement of the TMJ. Radiographic studies will provide additional information that can be of help in choosing the most appropriate treatment for that patient. When the physical examination has been non-specific, radiographs may be utilized to document the pathology. The radiographs most frequently utilized to evaluate the temporomandibular joint are: transcranial, panoramic, tomograms, arthrograms, CT scans, and Magnetic Resonance Imaging (MRI).

Transcranial, panoramic, CT scan, and tomographic examinations of the temporomandibular joint provide the clinician with information regarding the bony structures of the joint or joints suspected of having an internal derangement. The joint or joints with degenerative changes may frequently show surface irregularities of the bony structures, such as lipping, flattening, erosion, or osteophyte formation. They may also show radiolucent or radiodense changes in the condyle, fossa or eminence. Hypomobility or hypermobility of the joint may be suspected when open and closed views are compared. Although these x-rays may be of benefit and can be an excellent source of information about the temporomandibular joint, radiographs of diagnostic quality are difficult to produce because of mastoid air cells, the petrous portion of the temporal bone, the contralateral joint, or other areas of the skull that are projected over the temporomandibular joint. It has been reported that in up to 85% of the patients with temporomandibular joint dysfunction, the previous listed radiographs will show no abnormality. This indicates that the majority of patients with TMJ dysfunction either have no internal derangement, or have pathological changes in the joint that are not visible on these types of radiographs.[7]

Radiographic diagnosis of the temporomandibular joint disc may be accomplished by arthrography, CT scan or MRI. CT scan and MRI will show not only the hard but also soft tissue structures in a static position. They will delineate a displaced disc as well as a disc that is recaptured with opening. They will not, however, delineate a perforation.

Studies of the joint in motion are accomplished by TMJ arthrography. This allows visualization of the hard and soft tissues of the temporomandibular joint, not only static, but in fluid motion. Arthrography also allows visualization of the inferior and superior joint spaces so that the clinician can ascertain the presence of a perforation. Single contrast and single joint space injection is the most common study obtained. It allows one to make an evaluation of the disc's position directly by interpreting the shape of the dye-filled inferior joint space.

Non-surgical Treatment

The goal of all treatment is the elimination of pain and dysfunction. Primarily the non-surgical treatment of internal derangements involves the use of oral orthotics, acrylic occlusal splints, or other devices which cover the occlusal surfaces of either the maxillary or mandibular teeth. These splints are constructed so as to reorient the mandible into a new position which is consistent with healthy TMJ function. These splints may also be designed to position the mandible so that an anterior displaced disc that has been recaptured can be allowed to heal in its recaptured position. Once healing of the structure supporting the disc has been accomplished, a second muscle-relaxing splint is constructed that puts the mandible in a position allowing the muscles of mastication to attain their least active lengths. The non-surgical treatment of pain in and around the temporomandibular joint from myositis or muscle spasms are also treated with a muscle-relaxing splint. In addition to muscle-relaxing splints a myriad of other treatment modalities have been utilized (any one may be successful in all patients), including but not limited to: vitamin therapy, kinesthesiology, cranial osteopathy, biofeedback, physical therapy, TENs, electrical nerve stimulation, and muscle injections. Any and all of these may be combined in the treatment of any single patient and may be helpful in the management of patients undergoing splint therapy. Properly treated, many acute cases of early reducing disc displacements are amenable to non-surgical therapy. The general dentist or physician who might encounter minor jaw injuries should be aware of the potential for TMJ damage, even in cases that might appear trivial. When initial symptoms occur, early diagnosis and aggressive non-surgical therapy may frequently prevent severe internal derangement and the need for surgical intervention.

Surgical Treatment

Some cases of internal derangement — anterior disc displacement, with or without reduction, cannot be corrected without surgery. Most cases of disc perforation or severe degenerative joint disease cannot be treated without surgery. Non-surgical treatment may effectively alleviate the symptoms for a long, perhaps indefinite period, but correction of the anatomic defect requires surgery. Prior to arthrotomography, causes of TMJ pain were not readily differentiated and all cases were managed in the same manner. Many of these patients improved significantly for varying periods of time, only to have their symptoms recur. After frequent treatments and symptom recurrence, these patients were categorized as having emotional disturbances. Modern imagery of the temporomandibular joint has made it possible to correlate specific clinical signs and symptoms with pathologic changes in the TMJ. These correlations were made not only by the imagery, but were based on surgical and autopsy studies of affected joints. The indications for surgery of the temporomandibular joint are: documentation of disc derangement; documentation that the derangement is a major source of the pain or dysfunction to the patient; the pain or dysfunction should constitute a disability and non-surgical treatment should have failed, or would have an extremely high probability of failure if it were instituted.

Surgery of the temporomandibular joint should strive at reducing the patient's pain to a level that is easily manageable and increasing the patient's function to within 80% of normal. The surgical approach is through a preauricular or postauricular incision. The goal at surgery is to reconstruct the joint to as near anatomic normality as possible. Obviously deformed and perforated discs must be removed and replaced with disc implants or prostheses. Osseous surgery on either the fossa or mandibular condyle should not be accomplished unless there is obvious involvement of the bone. Tissue removal should be restricted to that minimal amount necessary to remove the affected tissue or to allow normal function.

Postoperative recovery is usually rapid, but complete postoperative rehabilitaton is accomplished only with close cooperation of the patient regarding physical therapy. Physical therapy must be undertaken for months in order to obtain range of motion and function of the maxillomandibular apparatus. Without this physical therapy, it is virtually impossible to return mandibular function to normal, pain-free function.

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Obstetrical Sonography

Some Significant Implications in Antepartum Management

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In this comparison study, prenatal patient management was changed in 26% of patients who underwent routine ultrasound examination. The scans also identified a subgroup of pregnancies (16%) that did not fall under NIH consensus guidelines for ultrasound examination, yet were nonetheless found to be high-risk.

In view of the recent consensus report of the National Institute of Health (NIH) regarding the use of routine ultrasound in pregnancy, this paper may seem presumptuous. However, it is the authors' opinion that these data, all gathered during the four years before the consensus report, were extremely helpful in patient management. While only prospective randomized studies will eventually resolve the safety issue, we wish to add our experience in this retrospective study indicating the utility of routine scanning during pregnancy.

In order to see if there were any appreciable changes in perinatal trends, a comparison was made within the authors' practice of the eight years March 1976 through February 1984. From March 1976 through February 1980, 3,426 patients were delivered, with ultrasound examinations performed only selectively. From March 1980 through February 1984, 3,315 patients were delivered, all screened with routine sonographic examination. The patient population in each group was essentially the same, and the number of deliveries relatively constant.

Establishment of a Fetal Growth Curve

Although the importance and accuracy of early pregnancy dating has been reported, the following statistics were felt to be meaningful. A review was made of the 3,616 patients scanned over a four-year period, March 1, 1980, to March 1, 1984, 3,315 of whom have delivered. Of these patients, 2,228 patients were scanned only once and 1,087 were scanned serially. Of the patients with the single scan, 1,460 patients (66%) delivered within ± 7 days of their sonographic estimated date of confinement (EDC) compared with 1,089 patients, or 49%, delivering ± 7 days of their historical EDC. The results demonstrated the ultrasonic prediction of delivery date was statistically more accurate than the historical prediction of delivery date at the $p<.01$ level (Fig. 1). This more accurate predictability of EDC has application as will be seen for suspected intrauterine growth retardation (IUGR) and planning of repeat cesarean sections.

Of the patients scanned serially, 729 (67%) delivered ± 7 days of their sonographic EDC, compared

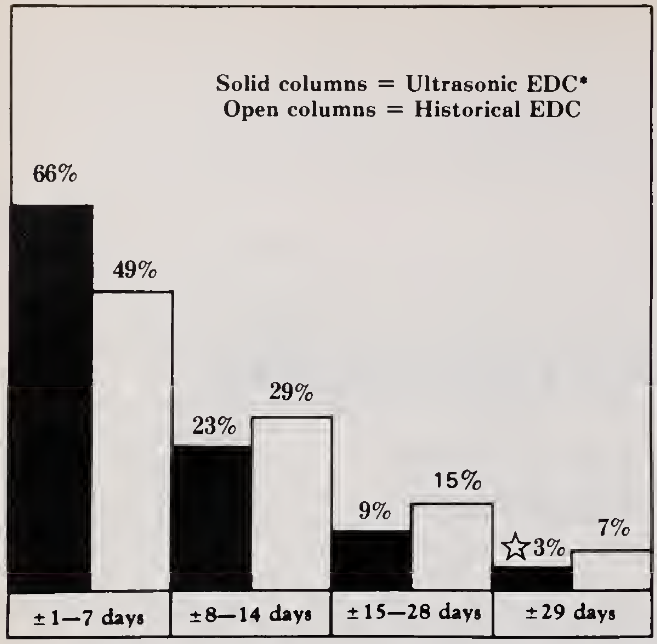

Figure 1. Accuracy of single ultrasound scan compared with the accuracy of history in projection of EDC. ☆These patients all delivered 29 days prior to their sonographic EDC
*$p<.01, x^2 = 208.99$ with 7 df.

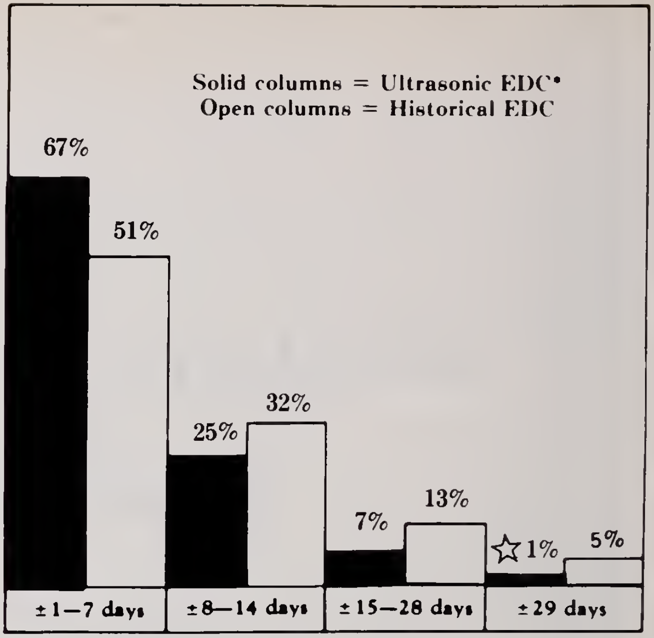

Figure 2. Accuracy of serial ultrasound scans compared with the accuracy of history in projection of EDC. ☆These patients all delivered 29 days prior to their sonographic EDC
*$p<.01, x^2 = 124.4$ with 7 df.

with 549 (51%) delivering ± 7 days of their historical EDC. This, again, is statistically more accurate than the historical prediction of delivery date at the $p<.01$ level (Fig. 2).

Of the 1,087 patients with serial scans, 274 of these were patients scanned for timing of elective repeat or primary cesarean section. Of these 274 patients, 32 (12%) were operated upon *after* their historical EDC (Table 1). Prior to the addition of routine scanning, patients had been scheduled for elective cesarean section seven to 10 days prior to their historical EDC, after amniocentesis for mature L/S ratio. Since the addition of routine serial scanning for these patients, elective cesarean section has been scheduled seven to 10 days prior to the sonographic EDC. With the early establishment of fetal age[1-4] and repeat sonographic evaluation at 30-33 weeks for growth and development,[3] the use of amniocentesis has almost been eliminated in our practice.

Intrauterine Growth Retardation

Routine scanning permits the early establishment of a fetal growth curve for the assessment of fetuses later suspected of IUGR.[5-10]

In the group of patients scanned routinely, 145 were re-scanned to rule out IUGR. Sixty-five patients were found to have fetuses whose measurements were compatible with average gestational age (AGA). Of the 80 fetuses having measurments suggestive of IUGR, 62 were noted as being borderline and were followed with serial scanning. The 18 diagnosed as being at high risk for IUGR were followed closely with antepartum testing. As a result of antenatal evaluation, subsequent surgical intervention to prevent further compromise was indicated in 12 of the 18. The close correlation between projected fetal weights from ultrasonic measurements [11] and actual birth weights can be seen in Table 2. There were two false positives.

During the four years utilizing sonography selectively, only one fetus was diagnosed as growth-retarded during the antepartum period.

Multiple Pregnancies

It is generally accepted that early diagnosis of multiple pregnancy should reduce the disproportionate perinatal mortality associated with this group. As reported by Medearis and Jonas in 1979, the 1% incidence of twin pregnancies in Missouri accounted for 10.1% of all perinatal deaths in this state.[12]

As demonstrated in Table 3, there was a reduction in the perinatal mortality trends in both the twin and general patient population after routine ultrasonic examinations were utilized.

During the four years preceding routine antepartum ultrasonic examination, 10 neonates of undiagnosed twin pregnancies died due to prematurity. However, since the addition of early routine scanning, there have been no neonatal deaths of twin pregnancies attributable to prematurity. The only death resulted from twin transfusion syndrome.

Relative risk ratios and attributable risks[13] were calculated on the three groups: general patient population, general population excluding twin births, and specific twin population. As documented in Table 4, the significance of the relative risk ratio was tested by Chi-square with one degree of freedom. Attribut-

Table 1
Delivery Via Scheduled C/S Per Ultrasound EDC
VS
Delivery Via Scheduled C/S Per Historical EDC

Historical EDC plus days	0-3	4-7	8-10	11-14	15-21	22-28	29	Total
Patients	9	6	6	4	4	1	2	32

Total number of patients scheduled for elective cesarean section after historical EDC — 32 or 12%

Table 2
Projected fetal weights vs actual birth weight at delivery in infants at high risk for IUGR

	Symmetrical IUGR			*Asymmetrical IUGR*	
Gestational Age	*Projected Wgt*	*Birth Wgt*	*Gestational Age*	*Projected Wgt*	*Birth Wgt*
			* 35 wks	1890 Gms	1700 Gms
(1) 31 wks	990 Gms	1077 Gms	* 35 wks	2070 Gms	2126 Gms
* 31 wks	1040 Gms	940 Gms	36 wks	1640 Gms	1775 Gms
* 33 wks	1050 Gms	1000 Gms	* 36 wks	2000 Gms	2350 Gms
(2) 34 wks	1650 Gms	1590 Gms	* 37 wks	1985 Gms	2000 Gms
36 wks	2260 Gms	2180 Gms	* 37 wks	1800 Gms	2120 Gms
* 39 wks	1740 Gms	1690 Gms	* 38 wks	2400 Gms	2025 Gms
			* 38 wks	1571 Gms	1690 Gms
			* 39 wks	1800 Gms	2000 Gms
			* 39 wks	2500 Gms	2360 Gms

(1) Severe toxemia. Intrauterine fetal death following total placental abruption.
(2) Delivered at 34 weeks following PROM. Later surgical repair required of TEF and patent ductus.
* Indicates patients that required surgical intervention to prevent further fetal compromise.

Table 3
Comparison of mortality trends in twin patient population with and without routine ultrasonic examinations

	Twin Patient Population	
	3/76-2/80	3/80-3/84
Total Patients	31	30
Total Deliveries	62	60
Live Born	58	55
Stillborn (Fetal Deaths)	4	4
Neonatal Deaths (28 days)	11	1
Prematurity (37 weeks)	10	1
Anomalies	0	1
Twin Tranfusion Syndrome		1
Stillbirth per 1000 del	64.5	66.7
Neonatal Mortality per 1000 del	189.7	18.2
Perinatal Mortality per 1000 del	242	83.3

able risk and results are the excess number of deaths per 1,000 which could be attributed to the lack of routine ultrasound.

Even though the relative risk ratio for the total population in perinatal mortality was only marginally statistically significant ($p<.10$), the attributable risk of this group indicates that nearly five babies per 1,000 are alive who would not have been expected to be without the routine use of ultrasound scanning.

In the twin patient population, these statistics are as follows: The relative risk ratio for the twin population in neonatal mortality was statistically significant at $p<.005$. The attributable risk of this group indicates that 172 babies per 1,000 are alive who would not have been expected to be without the routine use of ultrasound.

Placenta Previa

With current gray scale equipment, the accuracy of diagnosis of placenta previa should consistently approach 100%. As reported by Williams,[14] there is an incidence of placenta previa in one in 200 deliveries, or 0.5%.

The authors' patient population was found to be close to this figure. Of the 3,315 patients delivering, 422 (or 13%) scanned at 16 to 18 weeks were diagnosed as having placenta previa. Only 13 (.4%) of these 422 patients subsequently proved to have placenta previa on serial scanning (Table 5). Eight of these patients had experienced some bleeding or spotting during the course of their pregnancies. However, five of these patients, including three multigravidas, experienced no bleeding or spotting at any time throughout their

Table 4
Comparison of Relative Risk Ratios and Attributable Risks
of patient population with and without routine ultrasonic examination.

	(1)*General Patient Population*		(2)*General Patient Population*		*Twin Patient Population*	
	Relative Risk	*Attributable Risk*	*Relative Risk*	*Attributable Risk*	*Relative Risk*	*Attributable Risk*
Fetal Mortality	1.40	1.90	1.51	1.90	.97	−2.20
Neonatal Mortality	1.69	3.10	1.02	0.10	10.42***	171.5
Perinatal Mortality	1.53*	4.90	1.27	2.10	2.91**	158.7

* $p<.10$
** $p<.025$
*** $p<.005$

(1) including twin births
(2) excluding twin births

Table 5
Incidence of unresolved placenta previa requiring Cesarean section.

	Initial	*Resolved*	*Unresolved*
Placenta Previa	422	409	13 .4%
with spotting	169		8
without spotting	253		5

Table 6
Anomalies found or confirmed on 1087 repeat or serial ultrasonic examinations that required changes in pregnancy management.

*Anencephaly	4
*Omphalocele	1
*Gastroschisis	1
*Urachal Cyst	1
*Cystic Hygroma	1
*Dextrocardia with Massive Dilatation of Pulmonary Artery	1
†Anasarca	2
Etiology Undetermined	(1)
CHD-two Chambered Heart	(1)
†Bilateral Hydroureters	1
†Polycystic Kidney	1
†Multicystic Kidney	1
†Obstructive Hydronephrosis	1

*Detected on routine ultrasound examination.
†Detected on repeat ultrasound examination.

Table 7
Incidence of unexpected anomalies detected at delivery.

Hydrocephalus with Spina Bifida	1
Congenital Heart Disease — CHF	1
Microcephaly	1
Anencephaly	1
Ambiguous Genitalia	1

Table 8
Unexpected complications identified on 519 routine and follow-up ultrasonic examinations of low risk pregnancies that required changes in antepartum management.

Post historical EDC-Repeat c/s	32
Primary c/s macrosomia	7
Asymptomatic imcompetent cervix	5
Placenta previa without spotting	253
non resolved placenta previa delivered via c/s	(5)
IUGR	80
Twins	28
Triplets	1
Succenturiate placental lobe	3
Massive placental cysts	3
Amniotic membrane	2
Bicornuate uterus	3
Fetal demise (unexpected)	14
Nuchal cord	1
Ovarian cysts (mucinous cystadenomas)	3
Myomas	41
*Anomalies	15
Postmaturity	28

*Refer to Table 6.

pregnancies. All were delivered abdominally.

Of the 3,426 patients delivering in the selectively scanned group, six placenta previas were documented. All patients had had bleeding, and three were diagnosed just prior to emergency cesarean section.

Anomalies

The use of routine ultrasonography in the assessment of fetal anatomy revealed a wide range of anomalies (Table 6). Repeat ultrasound examinations not only allowed re-evaluation of a suspected condition but also enabled a detailed re-examination of the fetus, leading to identification of other problems (Table 6). The presence of IUGR as well as the detection of anencephaly (Fig 3-A&B), omphalocele, gastroschisis (Fig 4-A&B), cystic hygroma (Fig 5), polycystic kidneys, unilateral multicystic kidney disease, obstructive hydronephrosis (Fig 6), anasarca and dextrocardia with dilatation of the pulmonary artery (Fig 7), subsequently resulted in pregnancy management changes. Prenatal care of these patients then involved coordination of multiple specialties in the management of the fetus after it was delivered.[15]

In the group who had selective ultrasound scanning, there were no antenatal diagnoses of anomalies. Five gross anomalies were noted upon delivery (Table 7).

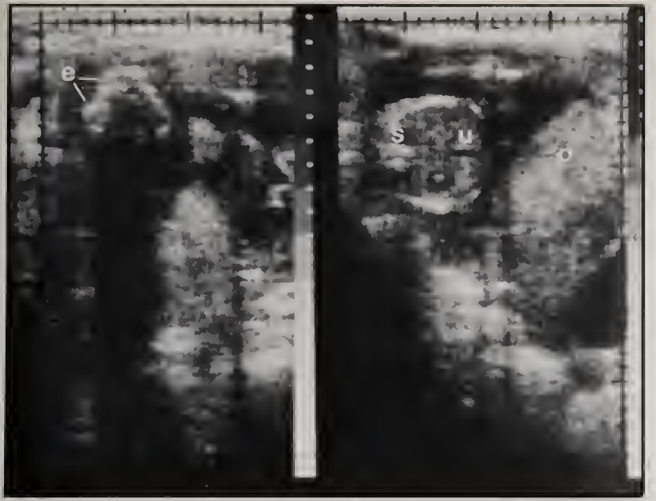

Figure 3-A. A longitudinal view of an 18-week anencephalic fetus. Triangular shaped facial features demonstrate the eye orbits (E).
Figure 3/B. Transverse abdominal view of the same anencephalic fetus. Umbilical vein = U; Fetal spine = S; Placenta = P.

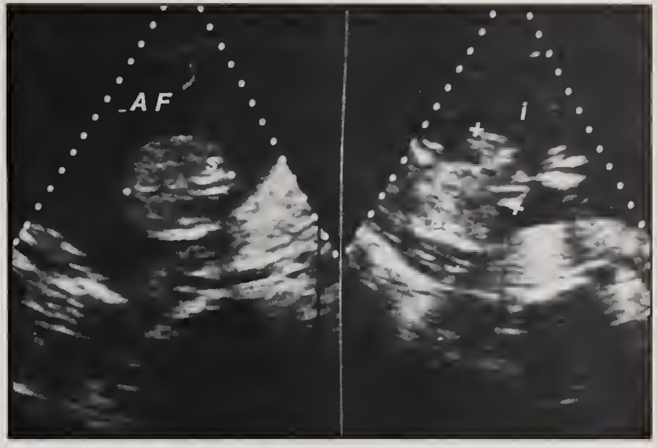

Figure 4-A. Transverse view of the fetal abdomen of unaffected twin. Placenta = P; Amniotic fluid = AF; Fetal spine = S.
Figure 4-B. Transverse view of the fetal abdomen of twin B demonstrating a gastroschisis. Fetal spine = S; Placenta = P; Intestines free floating within the amnionic fluid = within calipers.

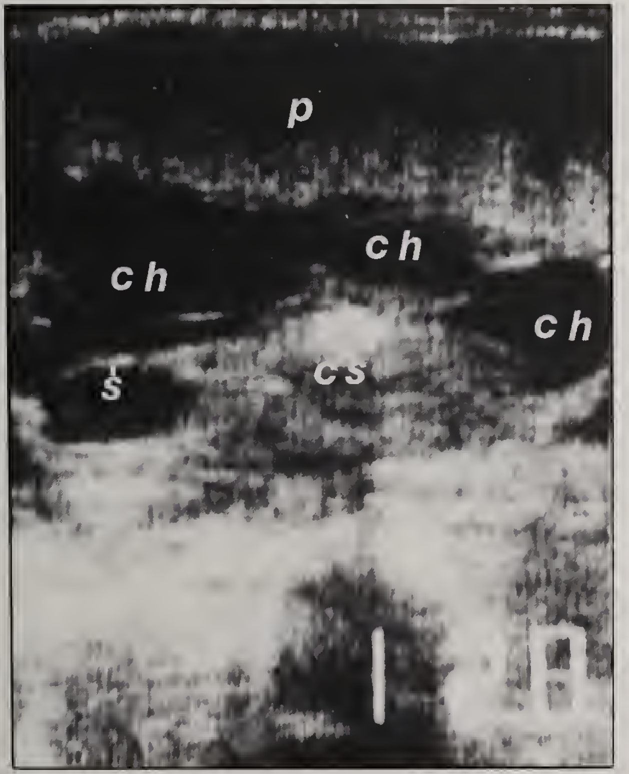

Figure 5. Transverse section of a fetal neck demonstrating a cystic hygroma (CH) with multiple septa (S). Cervical spine = CS; Placenta = P.

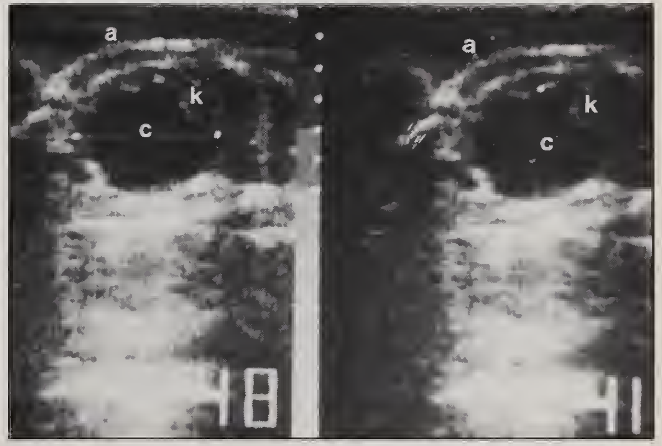

Figure 6. Longitudinal scan demonstrating dilatation of the renal pelvis and calyces (C). Fetal kidney = K; Amniotic fluid = A.

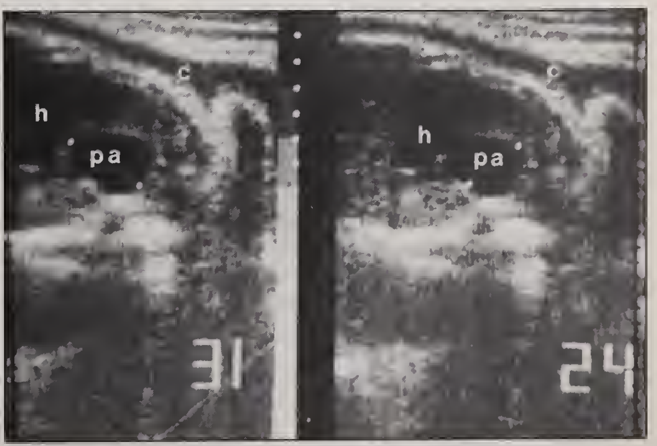

Figure 7. Longitudinal view of a fetal thorax demonstrating massive dilatation of the pulmonary artery (PA). Fetal heart = H; Chest wall = C.

Discussion

Of the 3,315 patients who were routinely scanned, pregnancy management was changed in 860 (26%) because of routine early ultrasonic examination. Routine scanning also identified 519 patients (16%) (Table 8) in the authors' patient population who failed to be covered under the liberal NIH consensus indications generally accepted for ultrasound examination, yet were nonetheless at high risk. Correcting for 248 placenta previas without spotting that had resolved on follow-up scanning, the 271 remaining patients still constitute 8% of the author's patient population.

In summary, routine early ultrasonic examination can:

1. Confirm EDC with a greater degree of accuracy.
2. Establish an early growth curve for fetuses later suspected of IUGR.
3. Provide accurate placental localization and warn of possible future placenta previa.
4. Diagnose multiple pregnancies early and with great accuracy with an apparent reduction of perinatal mortality due to prematurity.

Thus, in our hands, it appears routine early ultrasonographic examination can contribute significantly towards improved prenatal diagnosis and appropriate management of various perinatal complications.

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Continuing Medical Education

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February

10 **City-Wide Radiology Conference on "Update on the Treatment of Symptomatic Urolithiasis"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314-362-7100.

11-12 **Critical Care Symposium** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

15-17 **Advanced Cardiac Life Support Provider Course** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314-577-8167.

23-Mar. 2 **Cardiology Symposium** — Location: Steamboat Springs, Colorado. Contact: Anita Herbst, CME Coordinator, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

March

1 **Chronic Disease Update** — Location: Conference Room, U.S. Army Hospital, Fort Leonard Wood, Missouri. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, M240 Health Sciences Center, Columbia 65212, 314/882-2256. Or call Anne Remington, American Cancer Society, 314/893-4800.

7 **Medical Ethics** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

7-8 **Family Practice Update** — Location: UMC Alumni Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

7-9 **Organizational Systems** — Location: UMC Memorial Union. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

10 **City-Wide Radiology Conference on "Critical Appraisal of the MRI Experience in Neuroradiology, 2000 Consecutive Cases"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

10-11 **32nd Annual Urology Seminar** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Annual Postgraduate Pediatrics Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

14 **Depression and Preschoolers** — Location: St. Louis State Hospital. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

18 **Schizophrenia** — Location: St. Louis State Hospital. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

19-20 **Advanced Cardiac Life Support Provider Course** — Location: Francisco Lounge, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

20 **Mental Health Care and the Homeless: A Symposium** — Location: Adam's Mark Hotel, Kansas City. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

21 **Crisis Management and Maintenance of Schizophrenic Outpatients** — Location: St. Louis State Hospital. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

25 **Sam E. Roberts Nutrition Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

27 **Common Problems in the Nursery** — Location: Doubletree Hotel and Conference Center, Chesterfield, Missouri. Co-sponsored by Cardinal Glennon Hospital and St. Louis University School of Medicine. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

28 **AIDS: Are You at Risk?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

April

1 **Common Gastroenterology Problems** — Location: Alameda Plaza Hotel, Kansas City. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

4 **Cardiology** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

4-6 **Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

5 **The Brain and the Heart: Inter-relation in Psychiatric and Cardiac Patient Management** — Location: Omni International Hotel, St. Louis Union Station. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

10-11 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

17-18 **Microcomputer Jungle: Impact on Health Care** — Location: Doubletree Hotel, Overland Park, Kansas. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

21-23 **Surgery of the Paranasal Sinuses** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

25 **Pediatric Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25-26 **Primary Pediatrics Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

25-27 **Thirty-sixth Annual Postgraduate Symposium on Anesthesiology** — Location: Crown Center Hotel, Kansas City, Missouri. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

September

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103 913/588-4480.

October

4-5 **Infectious Diseases Conference** — Location: Tan-Tar-A Resort, Osage Beach. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

9-11 **29th Annual Physicians Weekend** — Location: Columbia, Missouri. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

Physician's Recognition Awards

Thirty-one MSMA members qualified for the MSMA-AMA Physician's Recognition Award during November 1985. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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Gerald W. Moritz, *Bridgeton*
Philip J. Shanahan, *Creve Coeur*
Elizabeth R. Vianzon, *Chesterfield*
Rashid Zia, *St. Louis*

In Memoriam

■ **Jacob S. Hoffman, M.D.,** 221 W. 48th St., Apt. 908, Kansas City 64112; graduate of the University of Wisconsin, 1932; member of the Jackson County Medical Society; age 77; died Nov. 6, 1985.

■ **Harmon U. Sanders, M.D.,** 115 Humphrey St., Greenwood, Miss., 38930; graduate of Vanderbilt University, 1932; member of the Jackson County Medical Society; age 82; died Dec. 23, 1985.

■ **Joseph Borenstine, M.D.,** 5110 Sun Circle, Sarasota, Fla. 33580; graduate of Washington University, 1939; member of the Jackson County Medical Society; age 70; died Nov. 26, 1985.

■ **Harold L. Gainey, M.D.,** 8127 Pennsylvania Lane, Kansas City 64114; graduate of the University of Kansas, 1931; member of the Jackson County Medical Society; age 80; died Nov. 28, 1985.

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Medical School News

University of Missouri-Kansas City

■ **Richardson K. Noback, M.D.**, UMKC School of Medicine professor of Medicine, is project director for the Missouri Geriatric Education Center, a program that spans two University of Missouri campuses and nine academic divisions. The program, made possible by a $272,000 Health and Human Services grant for each of three years is designed to "teach educators to educate" in the fields of geriatrics and gerontology. **William Bradshaw, M.D.**, dean of the University of Missouri-Columbia School of Medicine, is co-project director.

Information and instruction, drawing on the "vast array" of resources available on the UMKC and UMC campuses is targeted toward two groups of educators: faculty members in schools or colleges which prepare people to practice in the health professions, such as medicine, nursing, and pharmacy; and those in institutions which provide education for a wide variety of people who provide service to elderly people, for example, to individuals who provide staff development or on-the-job training to people who care for elderly in nursing homes or in community day-care facilities.

■ With an additional $18,000 grant for Hodgkin's Disease Research this year, associate professor of Pharmacy and Medicine **David Yourtee, Ph.D.** has received $42,000 in the past three years. The grant comes from the Valles Foundation, and helps fund a clincial program run by Dr. Yourtee which involves both in vitro and in vivo studies. The funds have allowed equipment additions such as an automated cell or bacterial colony counter with a computer interface.

■ **Kyle Petersen, Ph.D.**, is the most recent recipient of the Faculty Appreciation Award, an honor presented annually by the students of the UMKC School of Medicine. Other finalists were: **Ms. Francoise King, M.A., Bob In-Yu Yang, Ph.D., Marjorie Sirridge, M.D.**, and **Chris Sirridge, M.D.** The award was presented at the school's Final Annual Provost's Award Night, which consists of satiric skits of faculty and administration. In addition, **Edward Twin, M.D.**, and his Blue 6 docent team were presented with the Snake of Aesculapius Prize, for outstanding academic achievement.

■ The forged efforts of students, individual parents, parents groups, and the Truman Medical Center Charitable Foundation helped bring about 25 additional much-needed parking spaces for UMKC medical students. **Mr. John Meyer**, father of a UMKC student, led the St. Louis and Western Missouri Friends groups in a successful fundraising drive from all parents to help acquire property. The new lot is located across the street from the medical school and, weather permitting, was expected to be completed by the end of December.

■ Two UMKC medical students, **Ms. Holly Hales Thacker** and **Ms. Ellen Luebbers**, recently were awarded fellowships by the American Association of University Women (AAUW). The fellowships are offered to American women for research and study for advanced and professional degrees.

■ **Dean Harry S. Jonas, M.D.**, recently announced that effective Jan. 1, 1986, **Loretta Loftus, M.D.**, will assume the position of assistant dean and chairman of the Council on Evaluation at UMKC School of Medicine. Dr. Loftus has been associated with the School of Medicine since 1980 as a docent and assistant professor of Medicine (hematology-onocology).

Washington University

■ An obstetrics and gynecology researcher at Washington University School of Medicine has received more than $900,000 to continue studying the role of enzymes in producing steroid hormones.

The four-year grant renews a previous award to **Frederick Sweet, Ph.D.**, professor of reproductive biology, from the National Institute of Child Health and Human Development. Dr. Sweet hopes this research eventually will lead to improved management of fetal development during pregnancy and to a better understanding of how hormones are produced in the body.

In previous animal studies, Dr. Sweet and another investigator isolated and described an enzyme that they believe forms part of a unique hormonal communication system between the fetus and the mother. They think similar communication systems function throughout human pregnancies.

Dr. Sweet's research is in conjunction with three separately funded laboratories, including one headed by **James C. Warren, M.D., Ph.D.**, chairman and professor of the obstetrics and gynecology department at Washington University. The other laboratories are in Australia and Massachusetts. The investigators are collaborating on two other projects that examine the role of enzyme systems important in the production and regulation of hormones.

St. Louis University

■ **George Sopko, M.D.**, director of the cardiovascular risk reduction center at St. Louis University Medical Center, has received funds from Pfizer, Inc. to study Doxazosin, a new anti-hypertensive agent. Doxazosin has been found safe when tested in animals but has not yet received approval by the Federal Drug Administration.

During the 17-week study Doxazosin will be used in conjunction with Pindolol in an effort to evaluate its effectiveness in additional treatment in moderately severe hypertensive patients.

Dr. Sopko received his medical degree from Case Western Reserve University and was trained in preventive cardiology and cardiovascular epidemiology at the University of Minnesota. Dr. Sopko has expertise in cardiovascular risk factor reduction including treatment of high blood pressure, high blood fats, obesity, and exercise physiology.

■ **Irene Schulze, Ph.D.**, professor of microbiology at St. Louis University School of Medicine, has been awarded a one-year, $84,000 grant from the National Institute of Allergy and Infectious Diseases.

The project will concentrate on the method of movement of the influenza virus from one species to another. Epidemiological evidence suggests that the influenza virus is transmitted into the human population from animal sources. The research will detail how the virus enters into the cells of different species.

The influenza viruses are restricted in host range, but viruses from animal sources occasionally infect humans, setting the stage for widespread human disease. The mechanism by which the viruses overcome host range restrictions will be investigated through this research.

Influenza viruses have been the focus of Dr. Schulze's research since she joined the School of Medicine's faculty in 1970. Dr. Schulze obtained her doctorate degree in microbiology from St. Louis University School of Medicine in 1962.

■ A five-year, $459,668 grant has been awarded to **Alan M. Lambowitz, Ph.D.**, professor of biochemistry at St. Louis University School of Medicine. The grant was awarded by the National Institute of General Medicine Sciences and will be used for biochemical and genetic research. Dr. Lambowitz will conduct research with mitochondria in Neurospora to gain a better understanding of how mitochondria are formed and may lead to an understanding of genetic abnormalities.

Dr. Lambowitz serves on an advisory committee of the National Institutes of Health. He has published more than 60 articles relating to his work since 1971. He received his doctorate degree from Yale University in 1972 and joined St. Louis University School of Medicine in 1976.

The University of Missouri-Columbia

■ **Richard Finkelstein, Ph.D.**, professor and chairman of microbiology at the School of Medicine, has been awarded the Millsap Distinguished Professorship.

The professorship is the third made available through the Millsap Memorial Trust Fund, established by Marvin Millsap and his late wife Rose Ann Millsap. A retired businessman formerly associated with General Motors, Mr. Millsap now lives in Lexington, Mo. He earned his Master's degree in education in 1928 from the University.

The first Millsap Distinguished Professorship was established in 1983 and is currently held by Dr. Samuel A. Werner, professor of physics. The Dr. Loren E. Broaddus distinguished professorship also is sponsored by Mr. Millsap. It currently is held by **Karl Nolph, M.D.**, a nephrologist at the UMC School of Medicine.

■ For the eighth consecutive year, a grant from Research to Prevent Blindness Inc. (RPB) has been awarded to the University of Missouri-Columbia (UMC) School of Medicine.

The $25,000 unrestricted gift will support scientific research into the causes, treatments and prevention of diseases that cause blindness, says **Robert Burns, M.D.**, chairman of the UMC Department of Ophthalmology.

Over the past seven years, the department has received $95,500 from RPB. The RPB awards are made annually to more than 50 departments of ophthalmology across the country.

■ The structure and organization of medical education have been addressed in a national report, "Physicians for the 21st Century," conducted by the American Association of Medical Colleges.

The UMC School of Medicine was one of 96 schools participating in the study, and **Dean William Bradshaw, M.D.**, plans to follow a number of the report's recommendations.

In particular, he would like to emphasize the type of training that develops caring and compassionate physicians.

To make the basic sciences, such as anatomy, microbiology and biochemistry, more meaningful, Dean Bradshaw plans to change the curriculum to allow patient care "from practically day one in medical school and build on that throughout the four years."

He would like to replace the current system of large lecture classes with small group teaching.

The school also is developing a physician-student advising system to provide each student with someone who is more than an academic adviser but "a mentor and confidante" as well.

Admissions requirements are undergoing scrutiny to avoid premedical students concentrating solely in the biological sciences.

The school's grading system has been revised to help students know better where they stand. The past system "attempted to diminish the stress of the student, but it was too lax," Dr. Bradshaw explained.

Another priority is developing a self-directed and self-initiated learner because medical information fast becomes outdated.

Help for the Impaired Physician.

Through its Committee on Impaired Physician, MSMA helps doctors who are suffering from alcoholism, other drug addiction, psychiatric disorders, or senility. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

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New Members

■ **Barney B. Beaver, D.O.,** 702 E. 34th St., Suite 204, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Beaver received his preliminary education at Baylor University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1979. He completed his residency training at the Cleveland Clinic Foundation, Columbus, Ohio. He specializes in cardiology.

■ **Albert D. Brooks, M.D.,** 1963 W. Clayton Rd., Ballwin 63011, has become a member of the St. Louis Metropolitan Medical Society. Dr. Brooks received his preliminary education at Oakwood College and his medical degree at Loma Linda University in 1977. He completed his residency training at USPHS Hospital, Baltimore, Md. He specializes in internal medicine and gastroenterology.

■ **Brian A. Casement, M.D.,** Suite 142, 6400 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Casement received his preliminary education at the University of Minnesota and his medical degree at the University of Minnesota in 1981. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in anesthesiology.

■ **Patricia W. Cline, M.D.,** 1023 S. Fremont, Springfield 65804, has become a member of the Green County Medical Society. Dr. Cline received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1982. She completed her residency training at the Medical College of Wisconsin, Milwaukee. She specializes in physical medicine and rehabilitation.

■ **Debra A. Dill-Bergmann, M.D.,** 2700 Rockcreek Pkwy., Kansas City 64117, has become a member of the Clay-Platte County Medical Society. Dr. Dill-Bergmann received her baccalaureate and medical degree at the University of Kansas Medical Center, Kansas City. She specializes in anesthesiology.

■ **James R. Geurin, M.D.,** 6965 Columbia, St. Louis 63130, has become a member of the St. Louis Metropolitan Medical Society. Dr. Geurin received his preliminary education at Memphis State University and his medical degree at the University of Tennessee in 1984. He is completing his residency training at the Mallinckrodt Institute of Radiology, St. Louis. He specializes in radiation oncology.

■ **Peter B. Greenspan, D.O.,** Suite 306, 1515 W. Truman Rd., Independence 64050, has become a member of the Jackson County Medical Society. Dr. Greenspan received his preliminary education at the University of Missouri-Kansas City and his osteopathic degree at the Chicago College of Osteopathic Medicine in 1980. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in obstetrics and gynecology.

■ **Keith A. Hruska, M.D.,** 216 S. Kingshighway, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hruska received his preliminary education at Creighton University and his medical degree at Creighton University in 1969. He completed his residency training at Barnes Hospital, St. Louis. He specializes in internal medicine and nephrology.

■ **Earl L. Jordan, Jr., D.O.,** 702 E. 34th St., Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Jordan received his preliminary education at Taylor University and his osteopathic degree at the Chicago College of Osteopathic Medicine in 1980. He completed his residency training at Medical College of Ohio, Toledo, Ohio. He specializes in ophthalmology.

■ **Lowry Jones, Jr., M.D.,** Suite 720, 4320 Wornall Rd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Jones received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1980. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in orthopaedic surgery.

■ **Ryszard B. Kroll, M.D.,** 2005 Robin Terrace, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Kroll received his preliminary education at the University of Krakow and his medical degree at the University of Krakow in 1973. He completed his residency training at the University of Michigan, Ann Arbor, Mich. He specializes in internal medicine and cardiology.

■ **Thomas P. Laughlin, M.D.,** Suite 142, 6400 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Laughlin received his preliminary education at Creighton University and his medical degree at Creighton University in 1982. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in anesthesiology.

■ **James A. Maliszewski, M.D.,** Suite T101, 6420 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Maliszewski received his preliminary education at the University of Illinois and his medical degree at the University of Illinois in 1982. He completed his residency training at the Mayo Graduate School, Rochester, Minn. He specializes in internal medicine.

■ **Dev Maulik, M.D.,** Truman Medical Center, Department of Obstetrics and Gynecology, 2301 Holmes, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Maulik received his preliminary education at St. Xavier's College and his medical degree at the Medical College, University of Calcutta in 1962. He completed his residency training at Medical College Hospital, Calcutta, India. He specializes in obstetrics and gynecology.

■ **Mark S. McPhee, M.D.,** Suite 332, 4320 Wornall Rd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. McPhee received his preliminary education at Pomona College and his medical degree at the University of Kansas in 1976. He completed his residency training at Massachusetts General Hospital, Boston. He specializes in internal medicine and gastroenterology.

■ **Thomas A. Mustoe, M.D.,** 4949 Barnes Hospital, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Mustoe received his preliminary education at Harvard College and his medical degree at Harvard Medical School in 1978. He completed his residency training at Peter Bent Brigham Hospital, Mass. He specializes in plastic surgery and otolaryngology.

■ **Murray T. Pritchard, D.O.,** 1405 West Broadway, West Plains 65775, has become a member of South Central

Counties Medical Society. Dr. Pritchard received his preliminary education at Southwest Missouri State University and the University of North Carolina and his osteopathic degree at the Kansas City University of Health Sciences in 1957. He completed his internship at the Normandy Osteopathic Hospital, St. Louis. He specializes in general practice.

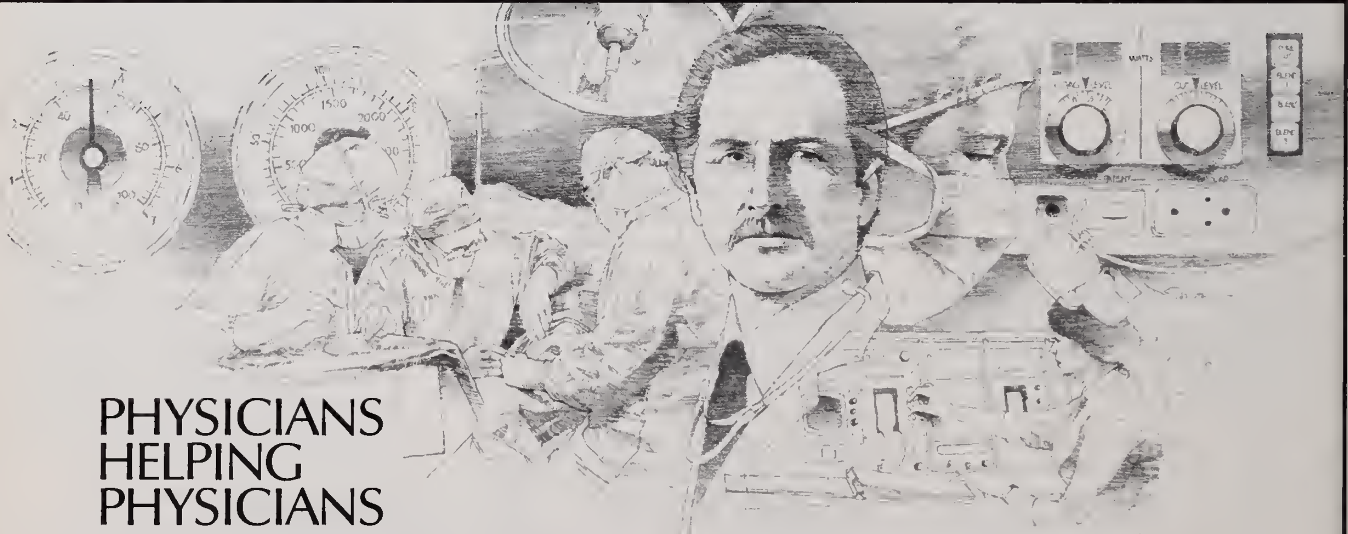
■ **Kenneth B. Smith, M.D.,** 800 E. 5th St., Suite 102, Washington 63090, has become a member of the Franklin-Gasconade-Warren County Medical Society. Dr. Smith received his preliminary education at the University of Missouri-Columbia and his medical degree at St. Louis University in 1982. He completed his residency training at St. John's Mercy Medical Center, St. Louis. He specializes in internal medicine.

■ **Richard H. Sundermann, M.D.,** 110 S. Central, Clayton 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sundermann received his preliminary education at Vanderbilt University and his medical degree at Washington University in 1979. He completed his residency training at Barnes Hospital, St. Louis. He specializes in psychiatry.

■ **Jaime Toro, M.D.,** 6150 Oakland Ave., St. Louis 63139, has become a member of the St. Louis Metropolitan Medical Society. Dr. Toro received his preliminary education at the University of Puerto Rico and his medical degree at the University of Puerto Rico in 1980. He completed his residency training at the St. Louis University Hospital, St. Louis. He specializes in radiology.

■ **Michael J. Waxman, M.D.,** Suite T303, 6420 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Waxman received his preliminary education at Coe College and his medical degree at the University of Kansas in 1977. He completed his residency training at the Kansas University Medical Center, Kansas City, Kan. He specializes in internal medicine and pulmonary diseases.

■ **Karen Yates, M.D.,** 1 Doctor's Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Yates received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. She completed her residency training at St. Louis University Hospitals, St. Louis. She specializes in otolaryngology and head and neck surgery.



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This Date in Medical History FEBRUARY

Compiled by Pasquale Accardo, M.D.
St. Louis

2

1677/8 Thomas Thacher, a doctor-preacher of Boston publishes a one page pamphlet that was the first medical book in America: *A Brief Rule to Guide the Common People of New-England How to order themselves and theirs in the Small Pocks or Measles* (Boston: John Foster).

4

1902 Charles Lindbergh, American aviator and inventor, was born. In 1936 he collaborated with Alexis Carrel to design the Lindbergh perfusion pump, an early artificial heart mechanism that allowed organisms to be kept alive outside the body.

7

1837 "God called her to His service February 7, 1837." Florence Nightingale: "For what training is there compared to that of the Catholic nun?"

1901 Paul Uhlenhuth publishes a paper describing a precipitin test to identify human blood stains.

11

1752 First patients are admitted to the earliest American hospital, the Pennsylvania Hospital, Philadephia, founded to serve the "distempered Poor."

12

1828 Dr. James Blundell performs the first successful hysterectomy. He was a founder of modern abdominal surgery and pioneered in the use of blood transfusion by the indirect syringe method.

13

1832 The first appearance of Asiatic cholera in London at Limehouse and Rotherhithe.

14

1852 Eliza Armstrong, age three and a half, is the first pediatric patient admitted to the first children's hospital, Great Ormund Street.

15

1829 Silas Weir Mitchell, American Civil War surgeon, neurologist and popular novelist, was born. The founder and spiritual leader of American neurology, he described post-hemiplegic chorea in 1874, the relationship between pain and weather in 1877 and the relationship of eye strain (astimatism) to headache.

16

1878 Claude Bernard, French physiologist, died. He was discharged at the age of 20 from his position in a pharmacy because he was a daydreamer. When he finally gave up his hopes of a career as a dramatist, he developed the concepts of homeostasis and the milieu intérieur, discovered the glycogenic function of the liver, the role of pancreatic enzymes in digestion, vasomotor control of blood flow and various aspects of carbon monoxide poisoning. This aloof genius was the first scientist honored by a funeral at public expense.

18

1896 André Breton, French physician, poet and essayist, was born. He had a special interest in mental disease and drew on Freudian dogma to become the founder and leading theorist of Surrealism with its reliance on dreams and "automatic writing." His poem, "Noeud des miroirs," includes a prescription formula for angina pectoris.

22

1828 The German chemist Friedrich Wöhler announces the isolation of urea in a letter to J. J. Berzelius, thus demonstrating that an organic substance could be synthesized from non-organic components. This marked the beginning of the study of metabolic pathways.

23

1946 Edmund Lohr, Jr., of Kew Gardens, Queens, becomes the first known victim of rickettsialpox.

1954 The first mass polio immunization of school children takes place in Pittsburgh.

1823 John Braxton Hicks, English gynecologist, was born. He introduced podalic version (internal and external) and described the contractions that bear his name — irregular painless contractions of the uterus after the first trimester of pregnancy, persisting to term.

24

1461 Charter of corporation for Masters or Governors of the Mystery of London (barber-surgeons).

25

1628 John Baptist Morgagni, Italian physician, pathologist and anatomist, was born. His *De sedibus et causis morborum per anatomen indagatis* was published in Venice in five volumes in his eightieth year. He showed that diseases arise from definite changes in some organ of the body and these changes are constant for any particular disease. He was the father of the "Anatomical Concept" of disease.

26

1884 Alexander Wood, Scottish physician died. He introduced the use of a hypodermic syringe for the administration of drugs.

28

1896 Philip Showalter Hench, American physician who pioneered in the use of cortisone for arthritis was born. He noticed that women with arthritis had less pain when they were jaundiced, pregnant or undergoing surgery. He shared the 1950 Nobel Prize with E. C. Kendall and T. Reichstein.

29

1820 Lewis Albert Sayre, "Father of American Orthopedic Surgery," was born. He was one of the founders of Belevue Hospital Medical College in 1859 and is remembered for his development of Sayre's jacket of plaster of Paris to treat scoliosis and Pott's disease.

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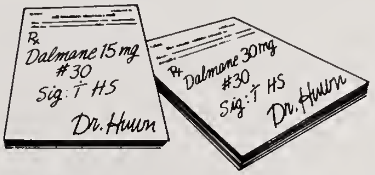

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Missouri Medicine

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MSMA Progress Notes

Signed, sealed and delivered. *Governor John D. Ashcroft (left) shakes hands with MSMA President Walter A. German, M.D. (right), after signing the medical malpractice bill into law. Garth S. Russell, M.D., Columbia (center), looks on. Dr. Russell donated many hours of his time traveling across the state to testify in favor of the bill.*

Gov. Signs Tort Reform Bill into Law

Months and months of hard work, deliberations and lobbying on the medical malpractice crisis by members of the Missouri State Medical Association culminated on Monday, February 3, when Governor John Ashcroft signed into law Senate Bill 663, the widely-publicized compromise measure on tort reform.

"All across our state, qualified and competent practitioners of the healing arts have been faced with skyrocketing insurance premium rates," Ashcroft said. "Insurance company representatives remind us that these rising premiums are a direct result of escalating medical malpractice insurance losses. Left unaddressed, these high premiums may lead to the prospect of obstetricians leaving obstetrics; physicians refusing to treat poor or high risk pregnant women; unnecessary tests and examinations; and a host of related problems."

After many long, tough hours and hours of negotiations late last year, representatives of the Missouri State Medical Association, the Missouri Association of Osteopathic Physicians and Surgeons, the Missouri Association of Trial Attorneys and representatives of the medical insurance carriers hammered out a compromise set of recommendations which later became the foundation of SB 663 which is now Missouri law.

The new law places a $350,000 cap per defendant on the amount of non-economic damages in a medical malpractice suit. The cap will be adjusted for inflation annually. Ashcroft called non-economic damages "the type least susceptible of scientific determination and most susceptible to exaggeration and emotion."

The bill also allows for large payments to be paid over a period of time (structrured awards). All past economic and non-economic damages will be paid at the time the decision is final. At the option of either the defendant or plaintiff, the court would structure awards for future damages (both economic and non-economic) if the total award exceeds $100,000.

The legislation also gives the state Board of Registration for the Healing Arts the authority to remove quickly from practice a physician who presents a clear and present danger to public health and safety.

Third, the law requires hospitals or outpatient surgical centers to report any disciplinary action taken against a health care professional to the appropriate licensing authority.

A written affidavit by a legally qualified health care provider must now be filed with each law suit filed. The affidavit must state that there is merit to the malpractice suit and that the defendant health care provider failed to use the degree of care required. This section of the bill was designed to discourage those who might abuse the judicial system by seeking to intimidate insurance companies and doctors' lawyers into settling out of court.

Provisions of the new law

became effective immediately upon the Governor's signature with the exception of two areas: Effective Jan. 1, 1987, the chief executive officer of any hospital or ambulatory surgical center will be required to report to the Board of Healing Arts any disciplinary actions or restrictions taken against any physician. In addition, effective Jan. 1, 1987, in counties with a population of more than 75,000, hospitals shall require, as a condition of staff privileges, that physicians carry medical malpractice insurance of at least $50,000. ■

Optometrists and lay midwives may soon be practicing medicine in state

Optometrists and *lay* midwives could soon be practicing medicine in Missouri if the state's physicians do not act quickly to prevent it.

Committees of the Missouri House of Representatives have acted favorably on House Bill 1333, which would permit optometrists to treat eye disease with therapeutic drugs, and House Bill 1415, which would license and permit the practice of poorly-trained *lay* midwives. The Missouri Senate is also expected soon to consider Senate Bill 588, an identical optometry bill as HB 1333.

These are not issues which affect just ophthalmologists and OB/GYNs, but all Missouri physicians. The bills represent attempts by non-physicians to provide medical care to patients in Missouri.

Optometrists, lay midwives, chiropractors and other groups have much to gain by moving into the practice of medicine, therefore, they are taking time to learn the political system and are working hard within that system. These individuals are getting to know their state senators and representatives personally; they are working in election campaigns and are donating their time and money. When one considers the fact that a race for state senator can cost between $80,000 to $100,000, one understands why lawmakers value any assistance and remember those who gave it. Furthermore, one can begin to understand why, when these groups come to the state legislature to ask for help in passing bills favorable to their professions, they already have the ear and attention of their legislators.

Please act today. Call your state senator and state representative and tell them that non-physicians are not qualified to practice medicine. These bills threaten the quality of care to Missourians. Then follow-up with a letter to them, expressing in writing your concern.

Missouri physicians do have the potential strength to defeat these bills. The question remains whether physicians have the desire to act to do so. Most physicians reading this won't. But all physicians and patients will suffer when medicine in Missouri is legally practiced by those not trained or educated to do so properly.

Now is the time to act. Get involved. Nothing sways lawmakers more than personal visits from constituent physicians. MSMA has established a Physician Involvement Program (PIP) which enables physicians to come to Jefferson City by 9 a.m., visit with their representatives on critical bills and leave for home by 1 p.m. Call the MSMA office today and arrange to spend one-half day in the state capitol protecting your profession. Call 341/636-5151 or write PIP, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102. ■

Council Meeting

Ad hoc committee formed to study PRO in Missouri

An ad hoc committee of four members of the MSMA Council has been formed to make an overview study of the PRO program in Missouri.

The committee was formed at the request of MSMA president Walter A. German, M.D. during the council's February meeting in Columbia. Dr. German has visited with more than 2,900 physicians across the state during his year as president. One of the main areas of concern for Missouri physicians is peer review, according to Dr. German. He requested that the ad hoc committee report to the next Council meeting on April 2 and that the report be disseminated to the general membership of MSMA as a report from the Council.

Members of the ad hoc committee are Dr. Carol Williams, St. Louis; Dr. Dorothy Reister, Kansas City; Dr. Melvin Kasten, Cape Girardeau; and Dr. H. Peter Ekern, Mexico.

The Council also reviewed a number of medical-related bills which are now being debated in the Missouri General Assembly. Among these are bills addressing: optometry; family practice residencies; direct reimbursement to nurses; insurance for the uninsured; independent practice of physical therapists; licensure of physician assistants; peer review revisions; licensure bills for lay midwives, dietitians, social workers, occupational therapists and respiratory therapists; revocation rights for the Board of Healing Arts; Good Samaritan bill; and mandatory reporting of head injuries.

After a brief discussion, the Council voted to support Senate Bills 474 and House Bill 1181 which would require hospitals to inform the relatives of a potential donor of particulars on organ donation.

It was reported that the Missouri Division of Family Services requested an increase in funds for Medicaid reimbursement for payment of physicians services, but the Governor deleted the increase. The MSMA is currently working with the Missouri House and Senate appropriations committees to restore the increase by illustrating the fact that recent increases in malpractice insurance alone are enough to further discourage participation in the program.

Royal Cooper, MSMA executive vice president, reported that in the latest membership printout from the AMA, Missouri's AMA membership had climbed to 6,008, which would entitle Missouri to a seventh AMA delegate and alternate delegate. These slots will be filled by official ballot at the MSMA Annual Convention in April. The same report showed 1,753 Missouri physicians have joined the AMA direct (i.e., they have not also joined MSMA), and 4,255 Missouri physicians have joined the AMA through the MSMA. Sixty-eight percent of MSMA members are also members of the AMA.

During reports from Council districts, Dr. Singleton reported that Greene County has established a coalition of city government, labor groups, industry groups and physicians to develop a program on dealing with the growing problems of lack of care for indigent patients. Dr. Conoyer indicated that St. Charles-Lincoln Medical Society expressed some negative attitudes toward both issues of unified membership and of an association-owned HMO. The student Councilor, Chris Felton, reported the student society favors unified membership.

Dr. James Stokes, a member of the MOMEDICO Board of Directors, reported that MOMEDICO is shifting from occurrence to claims made coverage. He also reported that St. Paul's Insurance Company is no longer writing any new professional liability insurance in Missouri. Medical Protective is writing policies only for low-risk classifications. There will be a 30 percent increase in premiums on MOMEDICO policies. No applicants who are qualified for MOMEDICO insurance have been turned down.

In other business, the Council agreed to submit a resolution to the MSMA House of Delegates indicating the following dues structures for 1987: Active members, $300; First-year practice physicians, $150; and residents, $20. ■

Workshops scheduled to help improve your medical practice

The Missouri State Medical Association has scheduled a series of four workshops designed 1) to help physicians beginning in medical practice; 2) to aid medical office staff; 3) to enhance physicians' marketing techniques and 4) to improve third party reimbursement and coding.

Marketing Techniques For a Successful Practice. This one-day seminar is scheduled for March 13, 1986, at the Kansas City Hyatt Regency Hotel and for March 14 at the Henry VIII Hotel in St. Louis. Areas to be covered will include patient surveys, newsletters, informational brochures, advertising, community exposure and improved doctor/patient communications. Registration is $155.

How to Get Started in Medical Practice. In Kansas City, this one and one-half day seminar will be held May 6-7 at the Embassy on the Park Hotel; in St. Louis, it is slated for May 8-9 at the Henry VIII Hotel. This is an ideal seminar for physicians who plan to go solo, join a partnership or group practice, or need direction on which way to go. Registration is $100 for MSMA members and $125 for non-members.

Five Workshops in Medical Office Management. These five workshops, each one day in length, will address "Computers in Medical Practice," "Patient Flow Management," "Financial Management," "Personnel Management," and "Personnel Problem Solving." These seminars will be held the week of June 2-6, 1986, at the Sheraton St. Louis Convention Plaza. Each workshop is $125, or you may register for all five for $550.

How To Improve Third Party Reimbursement and Coding. Scheduled for June 5, 1986, at the Sheraton St. Louis Convention Plaza, this one-day workshop will tell you how to correctly code for office, hospital and procedural services to obtain maximum reimbursement from third parties and show you the correct methods for follow-up on outstanding Medicare, worker's compensation and disability, and other third party claims and much more. Registration is $155.

Registration is limited for each of these workshops. For more information about any of the above workshops, contact the Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102. 314/636-5151. ■

Scam of the Month

The forged or stolen record scam

Recently, investigators in the Kansas City area have interviewed numerous physicians concerning their prescriptions of Ritalin for narcolepsey, Dilaudid for terminal cancer, Seconal and Tuinal for sleep disorders, etc. In all of these cases the physician had prescribed the controlled drugs based on hospital and/or medical records given to him by the patient.

When checking the copies of these medical records, it soon became apparent that they had been stolen from several area hospitals. The true patient's name had been covered with white-out and the fake name typed in. The form was then copied to look as if nothing had been altered.

It was determined that an organized group of "professional patients" were obtaining copies of medical records from a medical records technician who worked at one of the area hospitals.

Physicians are cautioned to make their own diagnosis of patient complaints and problems. Also, previous medical histories should be obtained by the physician in writing from hospitals or other physicians, or requested by telephone. Any medical records brought in by the patient should be verified with the physician or hospital involved, especially records indicating treatment with controlled drugs. ■

Physicians invited to participate in White House meeting on small business

Small business owners, partners and corporate officers from around the state are being encouraged to participate in a meeting sponsored by the White House Conference on Small Business. The conference is scheduled to be held at the Clarion Hotel in St. Louis, Tuesday, April 8, 1986.

The conference will afford state and local medical associations, clinics, groups of physicians and individual physicians the opportunity to pinpoint difficulties they are encountering and offer prospective solutions, including legislative and regulatory changes that would enhance productivity.

Conference attendees will participate in a series of issue discussions centering on areas such as taxation, economic policy, regulation and paperwork, and procurement. In addition, delegates will be elected to represent Missouri at the National Conference on Small Business in Washington, D.C., in August of this year.

For more information about the White House Conference on Small Business contact Gordon R. Garrett, Executive Vice President, St. Louis Metropolitan Medical Society, 3839 Lindell Blvd., St. Louis 63108. 314/371-5225. ■

Seven out of ten physicians accept Medicare assignment

Nearly seven out of every 10 physicians and other Medicare Part B providers are accepting Medicare assignment, the Health Care Financing Administration (HCFA) has reported.

From June through November of 1985, assignment rates varied insignificantly from 69.2% in June to 68% in November.

During 1984, the net assignment rate was only 58% of all claims, therefore, 10% more physicians were accepting assignment in 1985 than in 1984. ■

Plans set for MSMA's 128th Annual Convention

With the MSMA's 128th Annual Convention less than four weeks away, plans are being finalized for an exceptional program. The convention, slated for April 3-6, 1986, will be held at the St. Louis Marriott Pavilion Hotel.

The MSMA House of Delegates will meet three times and will be deliberating on several key issues including unified membership and a dues increase for the membership.

A top radio station in St. Louis, KMOX, will host a special live broadcast from the convention on Thursday, April 3, at 1 p.m. Topics to be discussed include the AMA's proposed ban on cigarette and tobacco advertising and the malpractice crisis in Missouri.

A highlight of this year's General Session on Friday, April 4, will be a speech by Governor John D. Ashcroft. The General Session begins at 9 a.m. The General Session will also feature a panel discussion on the MSMA's proposed statewide IPA/HMO.

Most of the specialty sponsored scientific programs begin on Friday. Sixteen specialty groups ranging from allergy to urology will sponsor more than 60 scientific presentations.

On Saturday evening, April 5, 1985-86 MSMA President Walter A. German, M.D., Springfield, will turn over the MSMA gavel to H. Peter Ekern, M.D., as Dr. Ekern is installed as the new MSMA President. The installation ceremony will also recognize those Missouri physicians who completed 50 years of practice of medicine this year. Following the ceremony, all MSMA members are invited to a reception in honor of the new president.

The House of Delegates will conclude its business at the Third and Final Session of the House on Sunday morning, April 6. The Session will be marked by the election of officers, the report of election of councilors, reports of reference committees, the installation of officers and the appointment of committee and commission members.

If you have not yet received your preliminary program and reservation form in the mail, please write or call the Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102. 314/636-5151. ■

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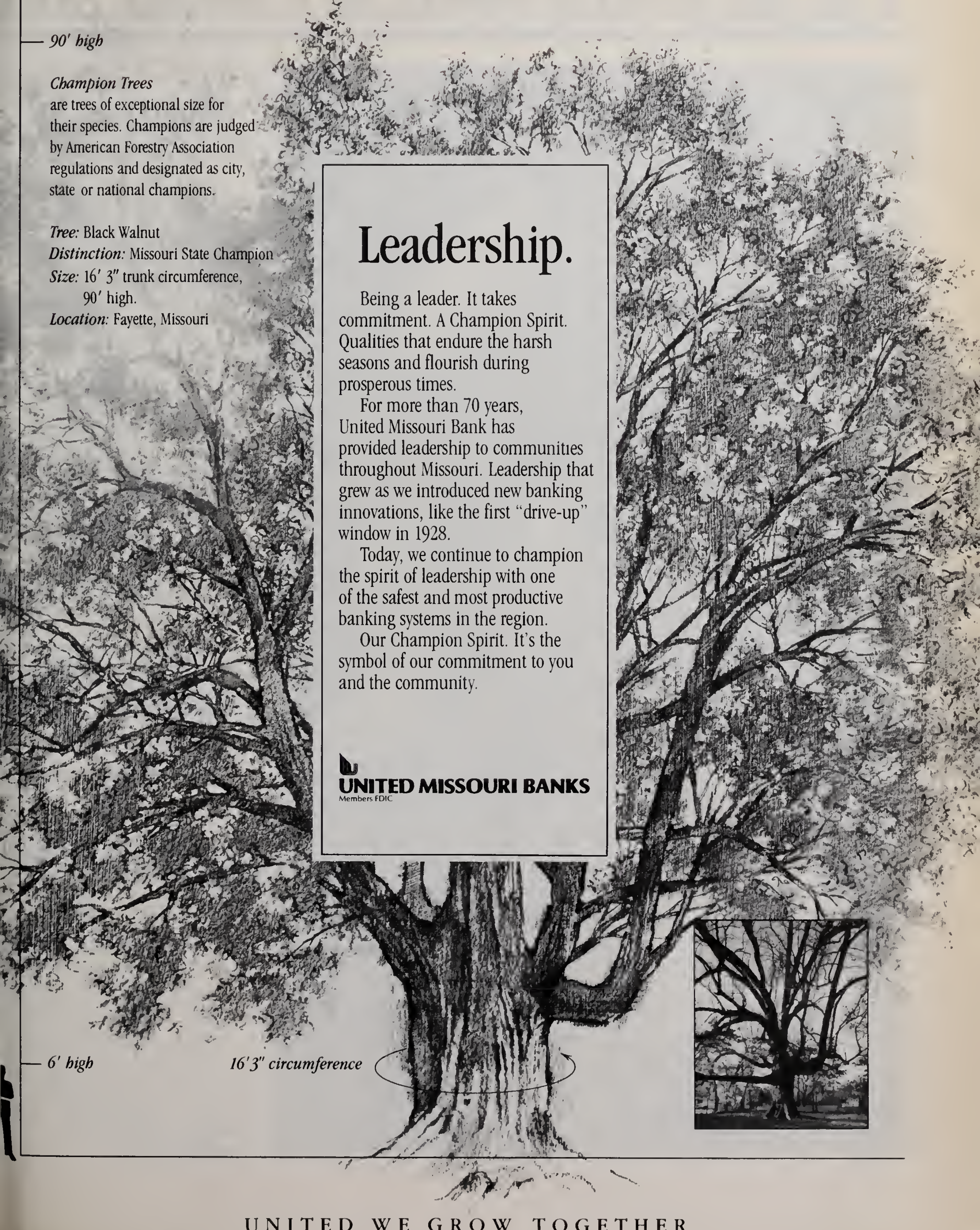

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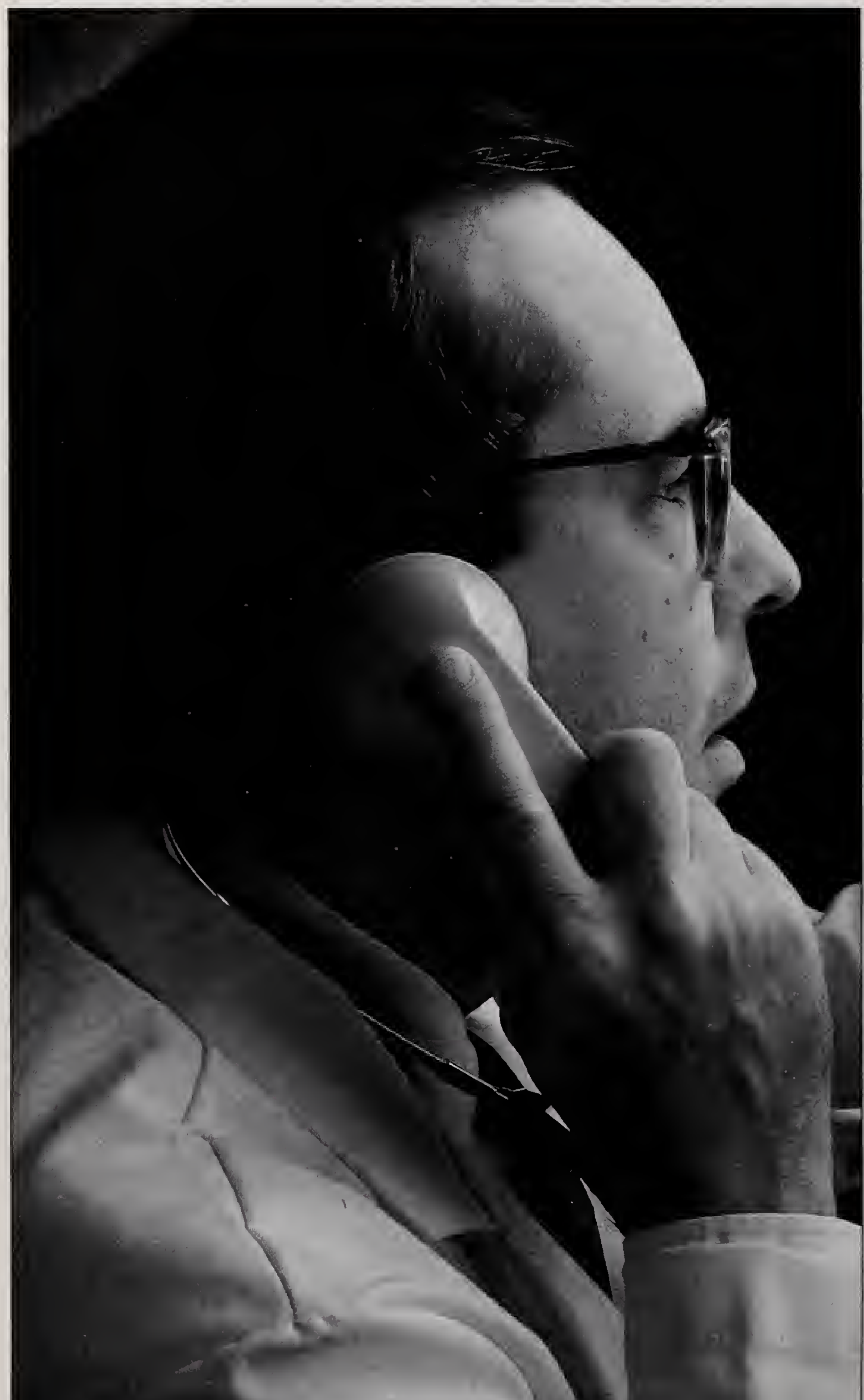

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Letters to the Editor

Medical Association should begin to organize its own IPA

Dear Dr. Burkey,

I appreciate the opportunity to respond to MSMA President Walter A. German's message in the January issue of *Missouri Medicine.* I wholeheartedly support the concept and idea of an IPA as a method of providing a non-profit, prepaid type of medical care for patients, rather than the "for-profit HMOs" which are now beginning to experience some difficulty in the St. Louis and Kansas City areas.

I think it would be in the interest of the patients and the physicians in the state of Missouri for physicians to organize such a plan. I do indeed support this. I understand it may be similar to that established by the Georgia Medical Association.

I hope the Missouri State Medical Association keeps up the good work on all of our behalfs.

Sincerely,
Harry C. Eggleston, M.D.
St. Louis

Physicians should address problems of PRO in more constructive terms

Dear Dr. Burkey:

I am writing as a concerned Board member of the Missouri Patient Care Review Foundation, Missouri's Peer Review Organization (PRO), and as a member of MSMA. I am troubled by recent letters to the editor critical of the seven-day response time to a pending denial by the PRO. Not that the concern is inappropriate — indeed, the Foundation Board struggled with this issue at length during last August's meeting before coming to a difficult, but necessary, decision. All 14 members of the Foundation Board, plus 21 Administrative Board members, are practicing physicians representing every area of the state and are keenly aware of the myriad pressures and constraints under which physicians today must practice.

Rather, what disturbs me about such letters is that the issue is portrayed by its authors — elevated, if you will, by virtue of its publication in the *Journal* — in a way that attempts to discredit the Foundation as a whole. By all means, we as physicians should make our concerns with the PRO program known to our congressmen, the Foundation, and the physicians who serve on the Foundation Board. However, attempting clever insights designed to amuse colleagues, while denigrating another colleague, is not productive and serves only to help divide practicing physicians and, perhaps eventually, remove practicing physicians further from the peer review process at a time when their involvement is vital.

I can assure all physicians that the Foundation Board is frequently less than enamored with the plethora of changes and dictates promulgated by the Health Care Financing Administration. But we recognize a responsibility to meet the Foundation's contractual obligations. More importantly, we remain dedicated to keeping the "peer" in PRO.

We are extremely fortunate in this state to have as the director of the PRO a physician, one whose experience is both clinical and governmental and whose style is one of compassion and fairness. No other PRO in the country has a physician as its chief executive officer. Moreover, Dr. Akhter has made personal visits with physicians throughout the state both individually and with groups to respond to the concerns of practicing physicians, as many of the readers of this *Journal* know. And as one knowledgeable of other PROs across the country, I would add that no other PRO director has been as vocal regarding the many unreasonable mandates emanating from Baltimore. Where might we be without physician leadership in the Missouri PRO today? Witness the recent article in the *St. Louis Post-Dispatch,* citing findings of the government's SuperPRO contractor and suggesting that the denial rate should have been four times higher, or 17 percent of all Medicare cases reviewed!

I encourage all physicians to remain concerned and involved. Criticize, question, and challenge. And do so in a way that assures a true peer review system.

Sincerely,
D. Douglas Westhoff, M.D.
Jefferson City

Task force aims at misuse and abuse of prescription drugs

Dear Dr. Burkey,

The Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs understands the frustration expressed by Dr. James A. Conroy in the January 1986 "Letters to the Editor" column in *Missouri Medicine* ("Law enforcement agencies should crack down on 'professional patients,' not doctors.") The problem of professional patients and their flagrant attempts at exploiting health care professionals is a deadly and growing menace. There is no question as to the need to aggressively prosecute these parasites. However, there is more to the problem than Dr. Conroy's account.

As a voluntary coalition of representatives from state professional associations, licensing boards, state agencies and law enforcement, the Missouri Task Force recognizes the menace posed by professional patients. Our Professional Awareness Program and Scam of the Month project are both directed toward alerting professionals to the problem and to precautions which should be exercised.

There is also the companion problem of the great harm done by the few dishonest professionals who knowingly provide controlled prescription drugs to the street market.

Task Force work with law enforcement officials has clearly demonstrated the need for stronger action. What is especially needed is improved communications between local professionals and local law enforcement agencies, and a greater willlingness for professionals to assist in the arduous prosecution process. These critical elements will only be accomplished if some local group shows enough interest and then provides the initiative.

Missouri must find a way to better address this problem on both sides. The hundreds (perhaps thousands) of professional patients who prey on health care professionals, as well as the few dishonest professionals, must be made to understand that Missouri is becoming a dangerous place to do their insideous business.

Thanks to Dr. Conroy and to *Missouri Medicine* for bringing this issue to the attention of your readers.

For the Missouri Task Force,
Jack Graham, Chairperson
Jefferson City

The Missouri PRO needs to initiate some positive changes

Dear Dr. Burkey,

Following is a copy of a letter I sent to Royal Cooper, executive vice president of the Missouri State Medical Association. The letter was written as follows:

As the 1985-86 acting president of the Perry-Ste. Genevieve Counties Medical Society, I'm voicing the sentiments and concerns of the society members: The Missouri State Medical Association should withdraw its support for the PRO if no positive and constructive changes are introduced. This is the essence of an approved resolution during the quarterly December 7, 1985, dinner meeting of our local medical society.

The society members are disenchanted and unhappy with the PRO whose reviewers (not all) may be inconsistent and discriminatory. Most of the society members are concerned about the possibility that a few of the physician reviewers may be either over-the-hill physicians who have not actively practiced medicine in years (out of touch), or inexperienced ones who have not yet developed the characteristic confidence, maturity and wisdom of a competent, rational, fair and open-minded reviewer. However, we agree that most of the physician reviewers may be qualified and competent ones.

We particularly would like to know how physician reviewers are chosen — the criteria and qualifications, and whether or not the local society and/or MSMA members are entitled or privileged to know the names of the physician reviewers.

Positive changes and reforms must be made. For example, an orthopedic case must be reviewed by an orthopedic surgeon, a pediatric case by a pediatrician, an OB-GYN case by an obstetrician-gynecologist, etc. Thus, a valid and believable review can be done. There should be no doubts and complaints from attending physicians if they know that their cases are being reviewed by peers practicing the same specialty and possessing current state-of-the-art qualifications and experience.

Unless changes for the better are instituted, there will always be an outstretched, clinched fist of discontent, and echoing whispers and murmurs behind the scenes: The sword of Damocles will be constantly hanging over our heads as we trudge along this confused, uncertain world of DRGs and PROs.

Sincerely,
Mel M. Allego, M.D.
Perryville

Get it off your chest.

Letters to the Editor
Missouri Medicine
P.O. Box 1028
Jefferson City, MO 65102

A special message from
the MSMA Council

Unified Membership
Myths and Reality

by Larry G. Piepergerdes, M.D.
Kansas City

Myth or Reality? Unified membership will hurt the Missouri State Medical Association.

Myth. In Illinois, a unified state, more than 65 percent of physicians belong to the Illinois State Medical Society. Nearly 80 percent of physicians in Oklahoma (which also approved unification) are members of the Oklahoma State Medical Association. (Kansas, Mississippi and Utah have only recently ratified unification and membership figures have shown no decline.) In addition, if unification passes, Missouri physicians who are now direct AMA members, i.e., they do not belong to the Missouri State Medical Association, would need to join MSMA in order to retain their membership in the AMA.

Myth or Reality? Unified Membership creates a "closed shop."

Myth. If the Missouri State Medical Association becomes unified, it will not change the fact that it is still a voluntary professional association. No physician is required to join in order to be licensed or obtain hospital privileges. The change to unification would mean only that a physician must join all three integral levels of organized medicine: the county society, the state association and the AMA. You can equate this, if you will, to requiring a citizen of Missouri to also be a citizen of the United States.

Myth or Reality? Unified membership is illegal.

Myth. Illinois, Oklahoma, Kansas, Mississippi, a few county medical societies in non-unified states, and one national medical specialty society (The American Association of Clinical Urologists) have been unified with no questioning of legality. In addition, the American Dental Association (ADA) enjoys unified membership with all state dental societies. (Incidentally, ADA membership is extremely high compared with physician membership in the AMA.)

There is no question that the issue of unification is one of the most critical the MSMA membership has faced in some while. These are critical times for physicians, for patients, and for organized medicine. If we unify, we have everything to gain. If we don't, we have everything to lose. The stakes have never been higher. For the patient, freedom of choice and access to the highest quality of care are in the balance. For the physician, the practice of medicine as we know it is in jeopardy. Will we physicians be able to practice medicine in the future according to our best medical judgment or will our actions and decisions be dictated by economic and legal factors?

I believe there is probably not one Missouri physician who has not been confronted with one of the many challenging problems of our times: the Medicare fee freeze; preadmission certification for Medicare and Medicaid patients; DRGs; HMOs; IPAs and the rest of the alphabet soup.

Unified membership will not automatically or magically solve these many growing problems. What it will do is allow American doctors a stronger voice on both national and state governmental levels and in the public forum. This voice will continue to strengthen as membership numbers increase and we physicians agree to work together to solve our common problems.

Unified membership will also bring with it some immediate benefits to the members of the Missouri State Medical Association. Among these: 1) Two additional AMA delegates to represent the MSMA. 2) A 10 percent reduction in AMA dues for all members. (Further reductions will likely occur when other states become unified and AMA membership increases.) 3) Additional direct reimbursement to the MSMA on a percentage basis for collection of AMA dues. 4) Expansion of services by AMA to the Missouri State Medical Association for various special projects.

Next month, at the Annual Convention of the Missouri State Medical Association, the House of Delegates will vote on this critical issue. I ask you to consider the matter carefully and to think about the long-range benefits that will result from unification. As I stated earlier, the stakes have never been higher than they are today. I believe unification is the only choice for medicine in the 1980s. ■

Dr. Piepergerdes is chairman of the MSMA Council and an alternate delegate to the American Medical Association.

The MSMA Retirement Plan System

A membership benefit offered in conjunction with Trust Consultants, Inc. and EF Hutton

The Missouri State Medical Association has made special arrangements to provide high quality retirement plan services for use by its members. The system is available to both incorporated and unincorporated members and offers a full range of plan design, administration, and investment options. The following are some of the attractive features of the system:

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For more information on the benefits of this new MSMA member service contact:

MSMA
Missouri State Medical Association
Retirement Plan System
100 South Brentwood, First Floor
St. Louis, MO 63105
Call Collect: (314) 725-9690

EDITOR'S DESK

by Jordan W. Burkey, M.D.

It is dehumanizing to telephone a patient to tell him that he has either disease number 191 or 417 and that evaluation number 259 must be done.

The numbers game adds up to trouble

The basic philosophy of "doing things by the numbers" is an anathema to anyone who has spent much time in the military service. This was the first taste many of us had as part of a huge, organized system — with the expedience of being considered more as a number with a body than as a person with a name. The military, like any bureaucracy, has adopted a number system out of necessity, one of the many reasons most of us were glad to serve our time and return to the "real" world where people were considered as people. It seems, however, as if the convenience and impersonality of the by-the-number system is slowly catching up with us.

A while ago in our hometown we saw a school bus go by. In place of the school name which used to be painted proudly on the side of the bus, there is now a noncommital "Consolidated District 470." In past years, our rural roads were often named with some logic — either geographically or after some early homesteaders. Now they must be identified only as a numbered farm to market road. The pleasure of eating out in a restaurant is slightly tarnished if, after waiting to be seated, the customer is called by number rather than being beckoned by name. A business transaction with official overtones may be interrupted if one is unable to come forth spontaneously with his social security number. Four more digits are being added to zip codes.

Meanwhile back in the office, what kind of digital experiences are our patients having? They must provide the receptionist with home and business telephone numbers, addresses, social security numbers and insurance policy numbers. The patient, especially a new one, may be pardoned for feeling more as an integer than as an individual. Just as DRGs have grouped diagnoses into 470 digital identities, treatment procedures are bound to become categorized in the same way. Already the IDC-9-CM tabular system used by most medical record personnel runs to three volumes and 2,500 pages. (Did you know that "E801.8" specifies injury suffered by a nonpaying passenger in a railway car when it is struck by a streetcar? Vol. I, pp 938, 939)

This is efficient in a way, and brings medicine into line for the computer and third party payers. But, it is dehumanizing to telephone a patient to tell him — or let the computer tell him as soon as it is wired for speech — that he has either disease number 191 or 417, and that evaluation number 259 must be done.

Keeping in personal touch with patients has always been a challenge and will continue to be increasingly difficult in the future. ■

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Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

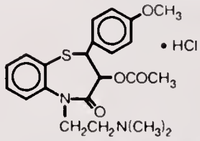
References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

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PRESIDENT'S PAGE

by Walter German, M.D.

I have no qualms about leaving this postion in excellent and capable hands. The officers and the staff of your organization are excellent, and you will continue to reap the many benefits of membership.

Year of success ends with promise of more

As my year as president of our organization comes to an end, I'd like to reflect upon the current status of the Missouri State Medical Association and on several events which occurred during the past year. Having served on the Council for more than eight years, I was aware that the membership in general was becoming apathetic, primarily due to lack of communication and ignorance of the practicing doctor about just what MSMA does for him/her as an individual physician. I felt that the best solution to this problem was visitation to each of the local medical societies to explain MSMA activities to the doctors on a one-to-one basis. This program has been a huge success.

During the year, I have visited with 45 local medical societies and city hospital staffs travelling over 12,000 miles and speaking to over 3,200 doctors and spouses. My wife has given freely of her time and talents by accompanying me on all of these visits. Her presence enabled us to speak not only with the doctors, but also with their spouses, a fact which I considered very important.

In the life of any organization its fortune waxes and wanes as the years pass. The prestige, the potency, and the power of MSMA has never been higher. Practicing doctors from Maryville to Kennett and from Hannibal to Joplin are very interested in state medicine and its many problems. They are also very aware that MSMA has accomplished a project which could have been done by no other organization in this state. I refer to the recently passed tort reform law. If you need a reason to belong to organized medicine in our state, this campaign and its success is a good reason. The hard work of MSMA to insure passage of this bill is now recognized by most physicians. They are more appreciative and they now stand ready to help this organization to help themselves. I feel very sorry for those non-member doctors in this state who cannot feel that they have played any part in this success while you as members are to be congratulated.

In other fields, at the current time, MSMA has in place some 21 different programs of action in all aspects of medicine. These programs are solely for the betterment and benefit of the practicing doctor, so write the state office for a listing of these programs. Join the hundreds of doctors already benefiting from one or more of the programs. All of these programs are now being updated and their scope of action increased. The state is about ready to set into action an updated impaired physician program with the bottom line aimed at identifying and rehabilitating those doctors needing help.

Of course, one of the main jobs of our state organization is to properly represent all practicing doctors in the ever ongoing legislative battles in Jefferson City. Each year brings many potential challenges to organized medicine and to the practicing physician. Constant vigil by extremely capable lobbyists is needed to identify

Continued on next page

■ President's Page, *continued*

and defeat these challenges year after year. This past year has been a continued total success in that all challenges to date have been defeated or properly modified. It has been a pleasure for me to work with a legislature and with an administration which understands health care problems and is willing to work with us toward a solution of these problems. This spirit of concern and combined effort has existed all year.

The central office of MSMA is just across the street from the Governor's Mansion in Jefferson City. The office is always open to you. You should stop in sometime. When you do, you will immediately notice the lack of space given to our very dedicated and very expert staff. The State Association needs more space, and as more and more programs of action are added to our list, we need several more staff people. Our current staff without exception is very talented, well-trained in their field, and function in great harmony. All for the benefit of you and I. I have no qualms about leaving this position in excellent and capable hands. The officers and the staff of your organization are excellent, and you will continue to reap the many benefits of membership.

Once again, I thank you for the privilege of serving as your president and I will look forward to the continued success of the Missouri State Medical Association. ■

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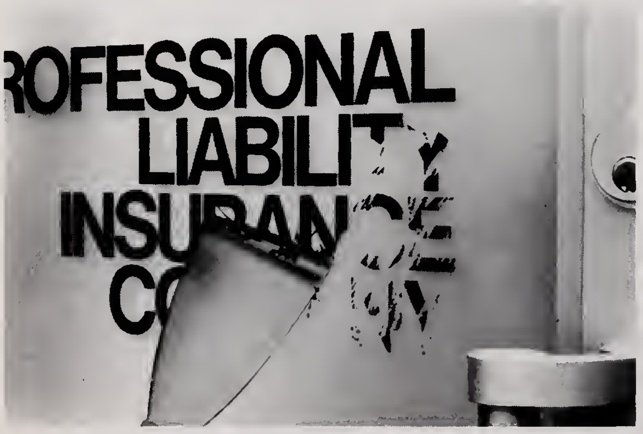

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Auxiliary Message

by Chris Bohigian
President

From hotlines to half-way houses, from professional liability to organ donor awareness, estate planning to media coverage, we have run and run and run.

Year draws to a close, but nothing ends here

One year ago I sat with a very sharp pencil, a blank sheet of paper, and more "great" ideas than the law allowed. Realism has dulled my pencil; awareness has marked my paper; but the "great" ideas remain.

I am reminded of Lewis Carroll's Red Queen in the classic "Alice in Wonderland." While teaching Alice the game of life-sized chess, the Queen tells her young visitor she must run as fast as she can to stay where she is; in order to go anyplace, she must run "twice as fast as that."

Without a doubt, the MSMA Auxiliary — your Auxiliary — has run "twice as fast as that." The accomplishments of more than 1,400 physician spouses will be acknowledged at our sixty-first Annual Convention, April 3-5, 1986 in St. Louis. From hotlines to half-way houses, from professional liability to organ donor awareness, estate planning to media coverage, we have run and run and run.

The convention will bring together members and guests for a time of sharing, learning and friendship. Outstanding achievements will be recognized and new goals will be set for the future. Above all, Auxilians will meet to share their common purpose, that of improving the quality of life for mankind.

It will be our great honor to have with us the AMA Auxiliary president, "our" Mary Kay McPhee. What a tremendously capable leader Mary Kay has again proven to be as she has travelled throughout the country representing this 80,000-member volunteer organization. And how terribly proud we are to call her our own.

The words "thank you" seem so inadequate to express my feelings to all who have been so supportive and encouraging these past 12 months. But, thank you I do. I would also urge you to "take your mark, get set and GO" because we still have to run twice as fast as we can to get anywhere. ■

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In My Opinion

Kenneth L. Rall, M.D.
Columbia

PRO is unjustly criticized by a few, vocal physicians

The Board and the staff of the Missouri Patient Care Review Foundation receive several letters and phone calls every week from Missouri physicians complaining about the peer review program. Most of these physicians have a legitimate reason for complaint, and we try to do our utmost to resolve the problem within the limited flexibility given to the Foundation by the Health Care Financing Administration. In fact, the Foundation staff and the Board bend over backward to accommodate our fellow physicians.

However, a small number of letters are written by ill-advised, misinformed physicians blasting the Foundation and the physicians who are associated with it. Distinguished members of the Missouri State Medical Association, with an impeccable record of support for the medical profession in general and organized medicine in particular, have been personally attacked by these physicians. The main gripe of these physicians has been that the Foundation performs too stringent review. As they have in the past, these physicians continue to communicate false and inaccurate information to other physicians, elected officials, and the public at large. A few of these physicians spend good, productive time writing letters denigrating the Foundation.

Recently Systemetrics, Inc., a California firm under contract with the Health Care Financing Administration to conduct the review of all PROs in the country, evaluated the Missouri Patient Care Review Foundation. Results of their review, recently provided to the Foundation, indicated that the Foundation has been extremely sensitive to the needs of Missouri physicians and patients. The Foundation denied, during the past year, only 4 percent of the cases. Systemetrics, using national criteria, has determined that the Foundation should have denied 17 percent of the cases. This 17 percent denial rate would have had an adverse effect on physicians, patients, and hospitals in the state of Missouri, particularly rural hospitals, which would have gone under with a 17 percent denial rate.

Our own analysis shows that less than 100 physicians were responsible for over 90 percent of all denials made by the Missouri Patient Care Review Foundation last year. This is less than 1 percent of all practicing physicians in Missouri. Only 56 physicians, approximately one-half of 1 percent of all practicing physicians in the state, had some problem with the quality of care delivered to the patient. Ninety-nine percent of the physicians in Missouri provide excellent quality of care and are very conservative in the use of medical resources while treating Medicare patients. However, these are the silent majority. Some of the most vocal physicians, who by their writings and public statements, want the Missouri Patient Care Review Foundation to dissolve itself and who are asking the Missouri State Medical Association to withdraw its support of the Foundation, are the abusers of the system.

Because of the small number of physicians nationwide who abuse the system and who do not cooperate with organized medicine in its effort to contain cost, DRGs and strict peer review were imposed upon all physicians. If this small minority of physicians (less than 1 percent) continues the way it has in the past year, the

Continued on next page

■ **PRO unjustly criticized,** *continued*

review function will be taken away from the Foundation and handed over to a national organization with potential disastrous consequences for all of us, including our patients that we all love to serve. There will be no opportunity for appeal, there will be no local input, and the denial rate will be four times higher than what we now have.

Ninety-nine percent of the physicians could sit by quietly while this less than 1 percent minority, who are misinformed and misguided, lead us on a path with disastrous consequences for our patients, ourselves, and the local hospitals, or we can take necessary action ourselves to bring these physicians into the mainstream of medical practice. It is no secret. All of you know who these physicians are in your hospitals. Please help us educate these physicians so that we can maintain local control of the review process.

We ask for your support and cooperation.

Dr. Rall is a physician member of the Board of Directors of the Missouri Patient Care Review Foundation.

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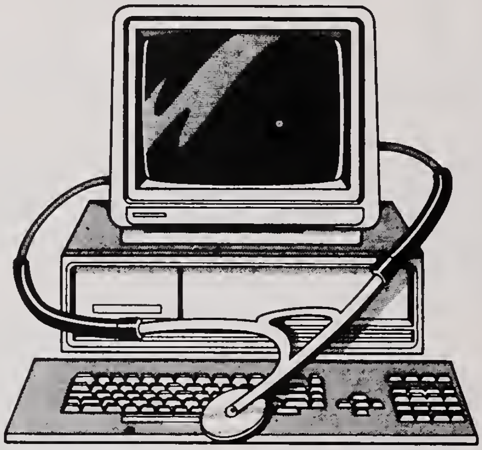

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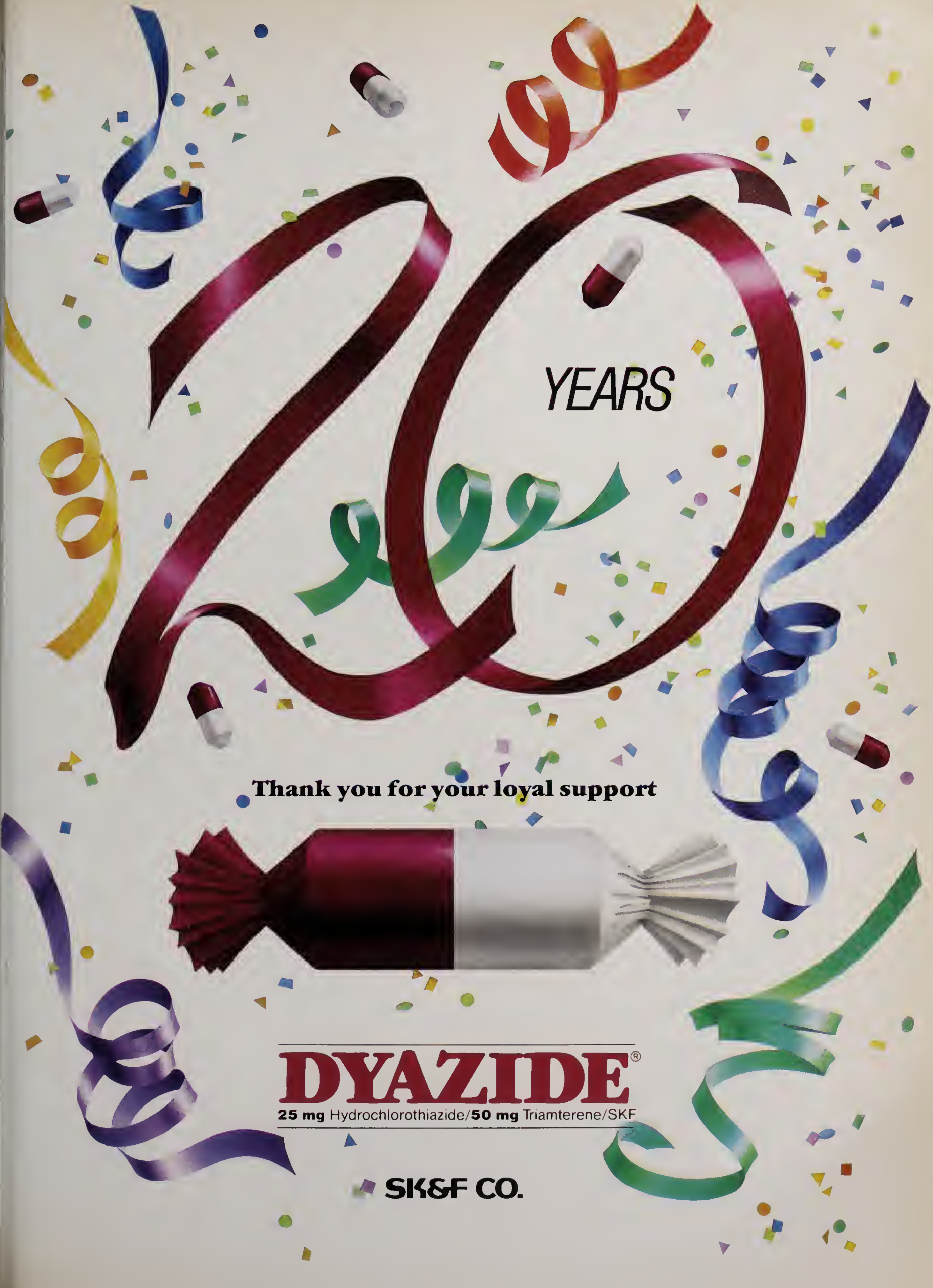

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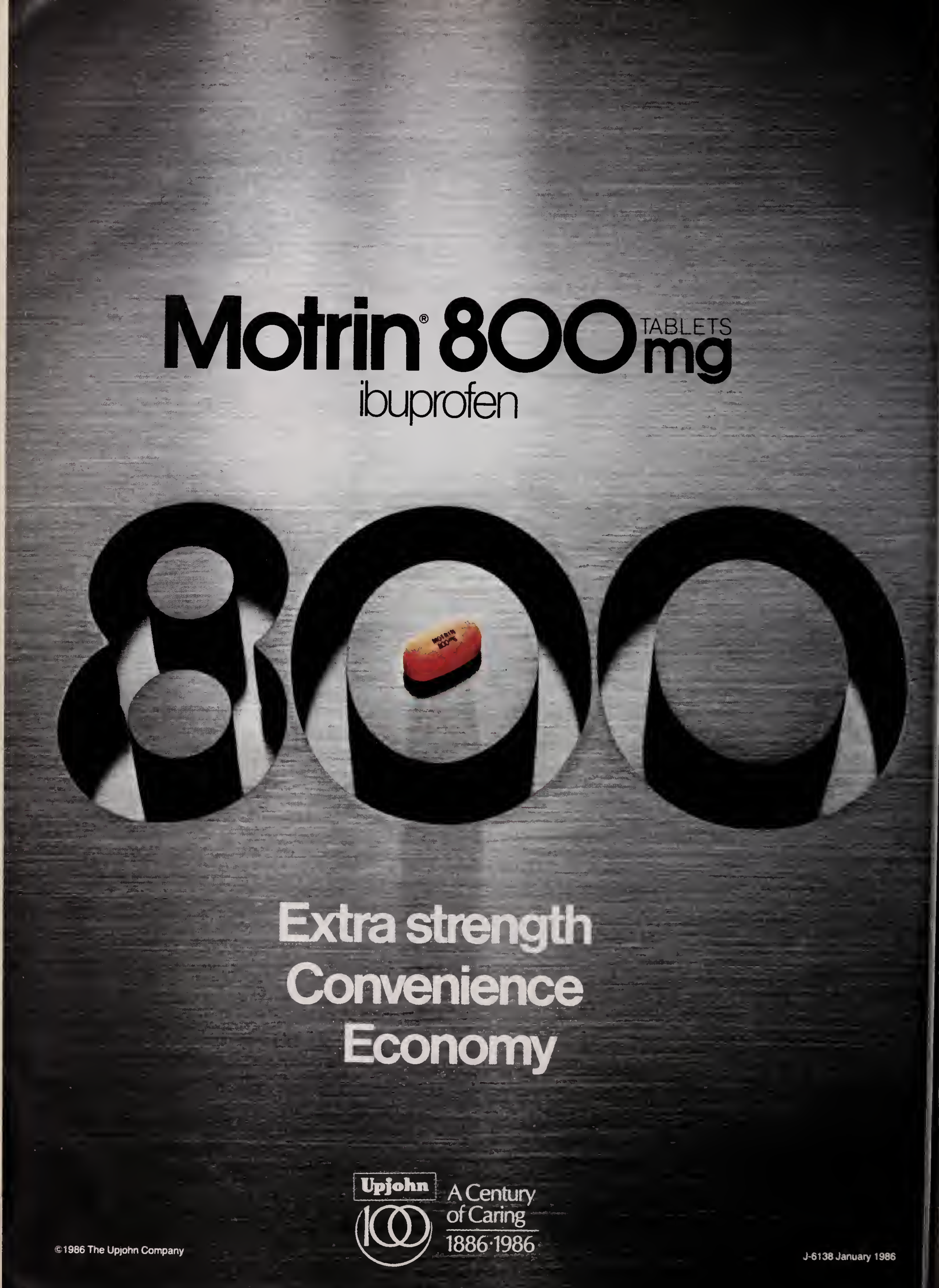
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J-6138 January 1986

"Special Article"

Physician Fee Advertising

If your patients knew what you charged before they visited you, would they change doctors?

Ik-Whan Kwon, Ph.D., and Jacqueline D. Frasca, R.R.A.
St. Louis, Missouri
Joe H. Kim, Ph.D.
Lawrenceville, New Jersey

In their study on advertising in the health care market which appeared in the January 1980 issue of *Missouri Medicine,* Kwon et al investigated the attitude of consumers and physicians toward fee advertising, especially in reference to the cost of health care.[1] This study indicated that although consumers wished to have fees readily available in published form (e.g. Yellow Pages), they did not believe that advertising would help to reduce health care costs nor lead them to choose a different physician.

Since the original study, health care policies in this country have undergone significant changes, due primarily to a rapid increase in health care costs and concern over inadequate access to health care facilities by certain underprivileged groups. Nonprice competition by hospitals has led to the alteration of traditional care into more outpatient-oriented care. More importantly, the emergence of the DRG system for reimbursement for the care of Medicare patients directly places financial pressure on hospital management. Such financial pressure has resulted in alliances among health care providers into new health care organizations such as HMOs, PPOs, and PPSs. These providers also form monopolies by contracting as a group with certain hospitals to provide services at preferred rates.

At the same time, there has been a visible increase in advertising activities in other professions. The American Dental Association and the American Bar Association no longer restrict their members from advertising their services. Advertising activities by these professions increase daily.

The purpose of this study was to ascertain consumers' attitudes toward advertising professional fees in the medical market. Unlike other studies in similar cases, this study investigated whether consumers are willing to act on their choice of physicians and hospitals based on hypothetical fee advertisement.

The survey was conducted in the St. Louis metropolitan area.

Theoretical Argument for Advertising

Imperfect dissemination of information is commonly blamed for the observed noncompetitive behavior of the health care market in general and the medical market in particular. This belief opens the path for governmental intervention.[2]

The effect of advertising on price competition, nevertheless, is not clear. One view maintains that advertising actually increases the accounting profit via higher price by increasing market power, concentration, and creating a subsequent entry barrier.[3, 4] This theory argues that an increase in advertising eventually creates monopolistic market conditions under which higher prices can be charged to consumers.

Others argue that advertising increases the consumer's awareness of alternative products in the market, thereby increasing the price elasticity of the products. An increasing volume of consumer information via advertising on price, quality, and location of alternative products eventually leads consumers to be more selective in their buying behavior. This, in turn, improves the market conditions that are conducive to fair competition. Price becomes more competitive and lower, according to this view.

The literature is fairly silent in discussing the actual impact the absence of consumer information has on price competition. This lack of research is due mainly to the lack of measurable data. The landmark decision on banning advertising in the health care market is the 1935 case of Selmer *v.* Oregon State Board of Dental Examiners (Selmer *v.* Ore. St. Bd. Dental Examiners, 294, U.S. 608, 612, 1935). In delivering the opinion of the United States Supreme Court, the Chief Justice stated:

> *The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises of physical relief.*

As stated, the major concern was quality of care.

The absence of consumer information in the medical marketplace has resulted in situations contrary to the competitive market. For example, physician's fees are allegedly higher in areas where the relative supply of physicians is greater,[5-7] and per capita utilization of physician's services frequently is found to be higher in the areas where the supply of physicians is greater.[7-9]

Data Collection

A telephone survey was used to solicit information from 250 potential consumers in the St. Louis metropolitan area who had been admitted to short-term acute-care facilities within the last two years. The survey was conducted in November and December, 1984, by trained professionals.

In selecting the representative samples, the sampling elements were stratified by the size of the population in each township. The St. Louis Metropolitan Area Telephone Exchange (prepared by Southwestern Bell Telephone Company) was used to determine the optimum sample sizes from each township. The 1984 Telephone Directory was used in completing the final interview with the consumers. It was determined that the total sample size should be 250. Two hundred-eighteen usable interviews were recorded by the end of the survey period.

Results and Discussions

The socioeconomic characteristics of the sample and the U.S.

"In spite of massive publicity by the media on health care costs, the public still does not seem overly concerned with the cost of care."

Table 1

Socioeconomic Characteristics of Samples and Population
(Percent Distribution)

	Samples	*U.S. Population**
Sex		
Male	48	49
Female	52	51
Age		
18-24 years	16	17
25-35 years	11	23
36-65 years	27	43
Over 65	46	17
Education		
11th grade or less	18	29
High school graduate	41	38
Education beyond high school	20	15
College graduate or more	21	18
Income Level (Annual)		
Less than $15,000	3	25
$15,000-$35,000	30	42
$35,000-$50,000	41	21
Over $50,000	26	12
Area of Residence		
Urban	40	43
Suburban	56	53
Rural	4	4

*U.S. Statistical Abstract 1984

population are shown in Table 1. Our samples seem to overrepresent the population over 65 years of age and underrepresent the population with an annual income of less than 415,000. However, the chi-square test indicates there is no statistically significant difference in overall characteristics between these two groups.

Consumers' awareness of health care costs has not improved much over the years, as shown in Table 2. More consumers now are informed of their expected cost than in 1979 (17.5% vs. 14%). However, the difference is not statistically significant. Moreover, the proportion of consumers who actually saw their bills declined from 80% to 76.5%. In spite of massive publicity by the media on health care costs, the public still does not seem to be overly concerned with the cost of care. This lack of concern is probably due to third-party payment of health care costs (94.5% of our sample had some type of health insurance). According to our study, consumers do not "shop around" for physicians or hospitals, even if total expected costs are made available to them prior to admission to the hospital. Consumers still consider health care goods as "selected" goods as opposed to "normal" goods. As such, reputation and continuity of relationship between providers and consumers, established and transmitted by informal social networks, seem to be more important than cost-savings to be gained by "shopping."

This survey shows consumer inconsistency between attitude and behavior toward advertise-

> ". . . It appears that advertisement in the health care market will not help to reduce health care costs."

Table 2

Consumers' Information on Health Care Cost (1979 and 1984)

Questions	1979		1984	
	Yes	No	Yes	No
1. Did anyone (physician or hospital) inform you of the expected cost of your hospitalization?	14%	86%	17.5%	82.5%
2. Have you ever seen your doctor's or hospital bill yet?	80%	20%	76.5%	23.5%
3. Does it make any difference to you as to the selection of your physician or hospital or both if the estimated costs were given to you prior to your admission to the hospital?	48%	52%	42.7%	57.3%

Table 3

Advertisement of Costs and Containment of Health Care Cost

Questions	1979		1984	
	Yes	No	Yes	No
1. Do you believe that advertisement will help to reduce the health care cost?	44%[b]	40%	58.3%[a]	22.2%
2. Do you think physician/hospital should be allowed to advertise their fees in yellow pages or some other media?	77%	23%	83.5%	16.5%
3. Do you think being informed about the total cost of your care would help you decide whether or not to be hospitalized?	NA	NA	29.8%	70.2%

NA: Did not ask this question in the 1979 survey.
[a] 19.4% of respondents had no opinion.
[b] 16% of respondents had no opinion.
[c] Statistically significant at $p < 0.05$.

ment of health care costs. Their attitude is positive when asked whether the advertisement would help to reduce health care costs (see Table 3). Almost 60% in 1984 believed it would help, an increase of almost 15 percentage points over the 1979 survey. Similar opinion was registered on advertisement of fees in the Yellow Pages. However, when the hypothetical question was asked about their behavior, more than 70% of the consumers said they would not use the published information as a basis for selecting health care services. The difference between attitude and behavior revealed in this study reaffirms our previous conclusion that consumers might have responded to the survey questions based more on their philosophical conviction in the value of the free enterprise concept in this country rather than on the economic theory that advertisement, indeed, will help to reduce the cost.

Conclusions

In spite of massive media publicity on health care costs and competition in the health care market, consumers still do not believe in the principles of advertising. Consumers still consider medical goods "selected" goods. As such, they seem to place higher value on the close relationship between providers and consumers, established by trust and confidentiality, than on economic gains from advertisement. Until and unless such relationship is broken, it appears that advertisement in the health care market will not help to reduce health care costs.

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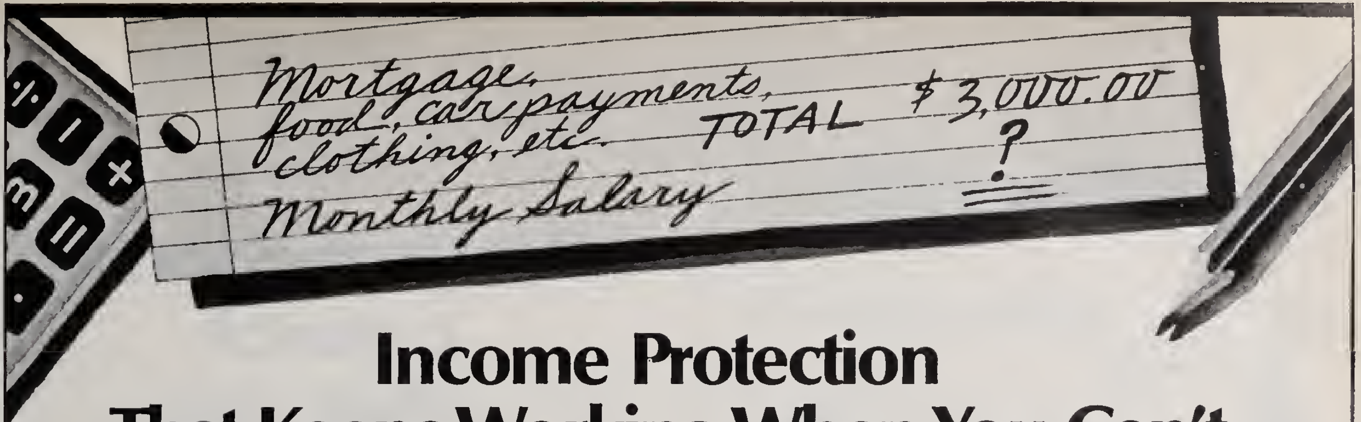

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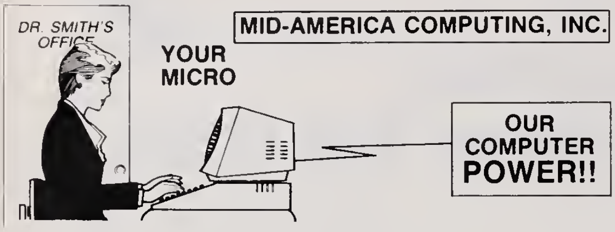
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A public service message from the Pharmaceutical Advertising Council and the Food and Drug Administration

Screening and Detection of Colon Cancer

Timothy T. Schubert, M.D.
Kansas City, Missouri

The biologic behavior of colon neoplasms allows "secondary prevention" by detection and removal of early malignant and premalignant lesions. The relative efficacy of each of the screening methods now in use is discussed.

Colon cancer ranks as the second most common cause of cancer deaths. There are more than 120,000 new cases and 60,000 deaths per year in the United States.[1] Most such cancers evolve slowly in polyps and progress to advanced stages over three to five years.[2] The goal of "secondary prevention" is removal of polyps or detection and removal of early stage malignancy. Because most colon cancers occur in those over 50, secondary prevention has been targeted primarily at this population. The difference in life expectancy of patients treated for Dukes A and B cancers (confined to the bowel) compared with those with Dukes C (nodal involvement) or D (distant metastases) is marked and not due to lead time bias, but the result of apparent cure (Table 1).[3] This review evaluates the current status of screening programs, stool hemoccult testing, sigmoidoscopy, barium enemas, and colonoscopy in the screening and evaluation of patients for colon cancer.

Screening Programs

Screening programs are of two sorts: 1) mass screening in which samples are mailed or distributed outside the usual medical system, and 2) case finding in which screening is done within the usual medical setting. Mass screening programs using stool hemoccults have met with variable success (Table 2).[4-7] Overall only 30% of the targeted population complies, and when the contact is by mail alone, the compliance rate may drop to 5%.[4] Typically, 60-80% of patients with heme-positive stools return for evaluation. When the physician to whom the patient reports does not have a particular interest in the program, evaluation is frequently incomplete.

One study found 617 patients with positive test results.[8] Even with repeated notification, 215 of these failed to report for follow-up. Physicians failed to evaluate 33 patients and inadequately evaluated 152. Most studies have 1% to 4% of patients with positive hemoccults. No dietary restrictions (Norfleet, Table 2)[6] and allowing patients to continue on nonsteroidal anti-inflammatory agents (Cook County, Table 4)[9] may account for higher rates of positivity in some studies.

Better results come from more organized efforts in which those screened are in an ambulatory care setting (case finding). The purpose and mechanics of the test can be explained, including proper diet and avoidance of test-interfering substances. History taking and physical examination determines symptomatic patients requiring more extensive evaluation than screening examinations allow. Table 3 summarizes the results in the three centers with ongoing programs of this sort.[9-11] Patient compliance with performing the test and undergoing adequate evaluation in this setting is superior to compliance in mailing programs.

Though this type of screening may not be feasible to offer to the entire population, primary physicians can offer screening to patients within their practices. One study in a general practice setting revealed that 86% of patients accepted the hemoccults, and 51% of these returned the specimens.[12] In an urban hospital, 60% of the population at high risk received cards, and 37% of these returned them.[9] Older patients (> 70) and men tend to be less compliant. Neither the presence of symptoms nor social status affected compliance. Those with a positive attitude towards preventive health practices and having had recent contact with medical services were most likely to comply.[13] To be effective, screening programs must detect cancer at a curable stage. Table 4 shows the results of the two largest programs.

Stool Hemoccult

Based on the observation that colonic cancers cause increased intestinal blood loss, Greegor reintroduced stool occult blood testing with guaiac for cancer screening in 1971.[14] The ideal would be a screening test that were positive if, and only if, a neoplasm was present. This would require that: 1) all neoplasias cause abnormal intestinal bleeding, 2) the test be negative in the absence of abnormal intestinal bleeding, and 3) the test always be positive in the presence of abnormal intestinal blood loss. Stool hemoccult testing departs from the ideal at each point.

Utilizing ^{51}Cr labeled erythrocytes, normal blood loss was found to be between 0.3 ml and 1.3 ml per day, resulting in a maximum normal of 1.3 mg of hemoglobin per gram of stool (assuming a blood hemoglobin of 15 g/dl and 150 g of stool per day).[15, 16] Using the currently most widely accepted test, Hemoccult II (SKF), studies evaluating patients with colonic polyps and cancers show differing rates of positivity at each amount of blood loss (Table 5).[15-17] Overall, Hemoccult II fails to detect abnormal colonic bleeding about half of the time.

Diet is one factor influencing stool hemoccults. Using the earlier hemoccult test without dietary restriction, 400 of 1,539 persons (24%) had positive results because peroxidases and animal hemoglobin also react with the guaiac.[18] With proper dietary restriction, 53 (3.4%) had positive hemoccult tests. The present modification, Hemoccult II, available since 1979, is less affected by diet. Only seven (0.4%) of 1,856 samples from healthy volunteers were positive, and those were in persons who had ingested rare red meat.[19] Of mass screening studies using Hemoccult II, the one without dietary restrictions had a twofold increase in positivity compared with other trials (Norfleet, Table 2).[6] These studies suggest that patients should be encouraged to follow a diet free of red meat and free of high peroxidase-containing foods to minimize false positives. On the other hand, samples obtained from patients failing to comply with this diet should still be considered true-positive, meriting eval-

Table 1

Survival According to Dukes Stage

Stage	(5-Year Corrected) Gill and Morris 1978[3]
A	100
B	58
C	27
D	5.5

Table 2

Mass Screening with Hemoccult II

Author	Norfleet[6]	Linne[4]	Lallemand[5]	Hardcastle[7]
year	1983	1983	1984	1983
location	Wisconsin	Missouri	England	England
Total patients	1,986	5,100	4,284	9,807
Responders	738	1,800	1,798	3,613
(percent)	37%	35%	42%	37%
Positive	62	65	26	77
(percent)	8.4%	3.6%	1.5%	2.1%
Colon Ca	0	7	0	12
Colon polyps	9	8	10	40
Diet restricted	no	yes	yes	yes
Patient Contact in person	no	yes	yes	no
mail	yes	yes	yes	yes
Age	40-65	>40	40-65	45-74

Table 3

Case Finding Results of Major Screening Studies

	Cook County Hospital[7]	Minn. Cancer Detection Center[10]	Memorial Sloan-Kettering Cancer Center[11]
Patients screened	3,531	23,000	11,505
Patients positive	146	525	115
(Percent)	4.1%	2.28%	1.0%
Patients positive & refusing evaluation	20	NA	34
(Percent)	13.7%		29.6%
Colon Cancers found	10	43	10
% of those screened	.283%	.186%	.09%
% of those positive & evaluated	8.6%	9.1%	12.3%

uation because of the relatively low increase in false positivity rate attributable to diet.

A number of other factors affect the usefulness of hemoccult testing as a screen for cancer. One is nonmalignant sources of gastrointestinal bleeding from nasal and gingival mucosa, peptic ulcers, inflammatory bowel disease, hemorrhoids, and fissures. Aspirin and nonsteroidal anti-inflammatory agents (NSAIA) also cause increased intestinal bleeding. Some authors imply that neither the use of aspirin[20] nor the use of NSAIA[21] alters the significance of hemoccult-positive stools. Others claim an increase in cancer detection by placing patients on enteric coated aspirin.[22] Most recommend a cessation of these medications prior to hemoccult testing.[23]

A decrease in cancer detection per positive hemoccults resulted from continuation of NSAIA in one large study.[9] Oral iron therapy increases both false positive[24] and false negative results, but barium appears to have no effect.[25] Ascorbic acid interferes with the guaiac hemoglobin reaction, resulting in false negatives.[26] Stool consistency affects the results. Liquid stools produce a 30% false-positive rate and hard stools are generally falsely negative.[27] Since delay in development of hemoccult slides results in an increase in false-negative reactions, slides should be developed within four days after the sample is taken.[23]

Intermittency, location and amount of colonic bleeding also influence the results of hemoccult testing. Colonic neoplasms often bleed intermittently. Current practice is to take two samples from three sequential stools. This compensates for intermittent bleeding and uneven mixing of blood in the stool. The location of bleeding lesions influences hemoccult test results. Polyps larger than 1.5 cm had comparable bleeding rates independent of location as measured by ^{51}Cr labeled RBC scan. Stools from those with polyps farthest from the rectum had the lowest rate of hemoccult positivity.[15] Quantitative determination of stool hemoglobin and hemoglobin degradation products suggests blood from proximal intestinal lesions is significantly degraded. Consequently, there is less hemoglobin in the stool, resulting in negative stool hemoccult tests.[27] For more than half of the stool hemoccults to be positive, an upper intestinal lesion had to bleed more than 9.0 ml per day,[17] compared to 3.0 ml per day for lower tract lesions.[16]

Table 4

Stage of cancer discovered with and without screening

Cancer Stage	A & B		C & D	
Minn.[10]	88/113	78%	25/113	22%
N.Y.[11]	27/36	75%	8/36	25%
Conventional		42%		55%

Table 5

Stool hemmoccult positivity in patients with colonic polyps or cancer ^{51}Cr-labelled erythrocyte determination of intestinal blood loss

Bleeding ml/day	0-.99	1.0-1.99	2.0-3.99	>4.0
Herzog[15]	39%	56%	86%	96%
Dybdahl[16]	13%	34%	50%	87%
Bleeding ml/day	0-2		2-6	>6
Macrae[17]	11%		40%	59%

Though polyps of the same size appear to have similar rates of bleeding, cancers in different locations may bleed at different rates, resulting in differing rates of stool hemoccult positivity. In one report, cecal cancers bled 9.3 ml/day, whereas other colon cancers averaged less than 2.0 ml/day.[28] Seventeen percent of patients with cecal cancers had negative stool hemoccults (six samples from three stools in three days), whereas patients with cancers in other parts of the colon had a 35% false-negative rate. Some suggest there is a lower rate of bleeding for rectal lesions.[29] Only 6/16 (38%) of rectal cancers were hemoccult-positive, while 8/11 (73%) of cancers proximal to the rectosigmoid tested positive.[30] Another study, however, reported 55/59 (93.2%) of rectal cancers had positive stool hemoccults.[31]

Determination of the false negatives (number of cancers missed) is available only from relatively small studies (Table 6). In three studies, stool hemoccults

Table 6

Sensitivity of Hemoccult II
Patients with Colorectal Cancer

First Author	Doran[22]	Roth[31]	Griffith[32]	Dybdahl[16]	Crowley[30]	Total
Referral Reason	Cancer surgery			Colonoscopy		
Number in series	50	106	28	20	27	231
Number heme +	35	97	23	17	13	185
Percent heme +	70%	92%	82%	85%	48%	80%

tests were evaluated in patients referred for colorectal surgery after diagnosis of colorectal cancer.[22, 31, 32] Two studies looked at patients referred for colonoscopy and found to have colon cancer.[16, 30] Bleeding corresponded to visible ulceration of the tumor. Of 28 patients studied prior to resection of histologically proven cancer, 23 of 28 (82%) patients were hemoccult-positive.[32] All 20 patients with ulcerated tumors were hemoccult-positive, whereas only 3 of 8 without ulcerations were positive. Overall the sensitivity rate is 80%.

For adenomatous polyps, the hemoccult test positivity rate is lower, but increases with polyp size. Hemoccult testing in patients with adenomas greater than 1.5 cm in diameter was positive 57% of the time,[15] but in patients with adenomas greater than 0.5 cm, the test was positive only 24% of the time.[11] Larger polyps are at greater risk of malignant degeneration, making their detection more important.[2]

Several efforts have been made to improve the sensitivity of the hemoccult test. One method is to rehydrate the slides prior to development. In one study, this decreased the false negative rate from 31% to 9%.[19] Unfortunately, there is also an increase in the number of false positives. Most authors, therefore, do not recommend rehydration for cancer screening in patients at risk because of age alone.[33] Certain populations carry a higher risk than that associated with increasing age alone. These include patients with panulcerative colitis of more than seven years' duration, those with family cancer syndrome, and those with a prior history of colonic neoplasia. In these patients the probability of cancer is such that hemoccult screening with rehydration may be warranted.[23] The number of false positives is minimized by strict dietary restriction.[19]

Another method of increasing sensitivity is to administer enteric coated aspirin.[22] This resulted in an increase in intestinal blood from 1.2 to 2.5 ml/day in patients with colonic cancer, and reduced the false negative rate from 30% to 18% among 50 patients studied. There was no increase in hemoccult test positivity among control patients receiving enteric coated aspirin, although fecal blood loss was not measured. More extensive studies have not been conducted.

Other means of determining fecal blood loss have been tried. Several nonguaiac reagents (benzidine, orthotolidine) used in the past appear to be inadequately specific because of reactions with interfering substances. Immunochemical tests seemed to offer increased sensitivity and specificity compared to Hemoccult II but have not become widely available.[29] Hemo-Matic Analyzer (Marion Laboratories) first concentrates the fecal hemoglobin and eliminates interfering peroxidases, then utilizes orthotolidine for the reaction. Preliminary results are promising.[34] HemoQuant measures heme-derived total and converted porphyrins.[27, 35] Near-total recovery of hemoglobin and apparent absence of interfering substances make this an attractive method. Further steps needed are: 1) development of the technique for use in the general laboratory, 2) studies on patients with proven intestinal lesions and controls, and 3) comparisons with standard measures of intestinal blood loss such as ^{51}Cr tagged red blood cells.

Proctosigmoidoscopy

Long recommended, sigmoidoscopy has not been generally used nor extensively evaluated for screening of colon cancer.[36] About 30% to 35% of all colorectal cancers occur within reach of the 25 cm rigid sigmoidoscope.[37] Gilbertson's results suggest there is a definite reduction in the incidence of rectosigmoid cancers and the stage at which they are found with yearly sigmoidoscopy and removal of neoplastic lesions.[38] Critics point out the lack of suitable controls.[39] A Kaiser Permanente study likewise seems to show a reduction in rectosigmoid cancers, but the study was not clearcut.[40]

A very promising development is the flexible sigmoidoscope. Nearly 65% of colon cancers occur within reach of the flexible sigmoidoscope.[37] Overall, flexible sigmoidoscopy detects 2.5 times as many polyps and cancers as rigid sigmoidoscopy.[36] Physician and patient compliance seems somewhat greater. Introduction of flexible sigmoidoscopy into one family practice residency resulted in a sevenfold increase in the number of screening sigmoidoscopies performed.[41] Utilization of nurse practitioners to perform the examinations offers a potential cost saving and increased availability.[42] The complication rate remains small.[43] Flexible sigmoidoscopy can be performed using CO_2 for insufflation. This allows air contrast barium enema to be performed immediately afterwards when necessary.[44]

Table 7

Yearly Medical Costs of Not Screening and Screening for Colon Cancer
U.S. Population over Age 50

		No Screening	
Cancers	No. of persons	Cost per pt	Total cost
Detected, uncurable	60,000	$30,000	$1.8 billion
Detected, curable	60,000	$10,000	$0.6 billion
Total	120,000		$2.4 billion
		Screening	
Cost of screening	$50,000,000	$60	$3.0 billion
Cancers prevented	40,000		
Cancers curable	64,000	$10,000	$0.64 billion
Cancers incurable	16,000	$30,000	$0.48 billion
Total			$4.02 billion

Evaluation

Colonoscopy and air contrast barium enema are the principal options for evaluating patients found to be hemoccult-positive when screened for colon cancer. In the Minnesota experience, single contrast barium enema proved inadequate, detecting 64% of 77 cancers and 35% of 372 polyps.[10] Air contrast barium enema (ACBE) appears to be an advancement. Early reports from Sweden suggested it to be equal to colonoscopy.[45] Another report noted lesions found with ACBE, which had been missed by colonoscopy.[46]

Other reports were less reassuring. One radiological study indicated 21 of 160 (13%) false positives.[47] The false positive rate rose to 12 false positives for 24 true positives in lesions over 2.0 cm. In another study, colonoscopy followed ACBE.[48] The endoscopist was unaware of the x-ray findings. For all adenomas and polyps, colonoscopy detected 117 of 126 (94%) whereas ACBE detected 85 of 126 (67%). Colonoscopy detected 37 of 38 (97%) of lesions > 1 cm, whereas ACBE detected 31 of 38 (82%) lesions > 1 cm. In one cancer screening program, both ACBE and colonoscopy detected 12 of 13 cancers, each detecting one cancer the other missed.[11] In the same study, colonoscopy detected 43 of 45 (92%) adenomas > 5 mm, while ACBE detected only 21 of 45 (47%).

The most definitive study was of patients being observed because of prior colonic polyps.[49] After a thorough colon preparation, these patients first underwent colonoscopy using CO_2 insufflation. Because of rapid resorption of the CO_2 ACBE was next performed that same day without the radiologist knowing the endoscopic findings. There were six cancers and 57 adenomas found that were greater than 7 mm in diameter. Colonoscopy detected each of the six cancers and 52 of 57 adenomas, for an accuracy of 92%. ACBE demonstrated four of six cancers and 41 of 57 adenomas for an overall accuracy of 71%. Most missed lesions were in the sigmoid or cecum. Colonoscopy appears to be the diagnostic method of choice for evaluating patients with heme-positive stools who are at risk for colon cancer.

Cost and Implications

Solid conclusions about the efficacy of colon cancer screening over a period of time await the results of the ongoing trials in New York and Minnesota. The available information supports the following calculations. Each person over 50 has a 1 in 25 chance of dying from colon cancer.[50] The cost of a stool hemoccult test is $5, and a flexible sigmoidoscopy is $100. The hemoccult testing should be done annually, and flexible sigmoidoscopy every three years. There is a 3% chance per year of having a positive stool hemoccult test necessitating laboratory and colonoscopy evaluation at a cost of $750. The yearly cost per patient is $60. Assuming cancer is found in 10% of those testing hemoccult positive, each cancer costs $30,000 to detect. If one out of three cancers is prevented by removal of polyps prior to malignant degeneration, and if 75% of those discovered are curable, for those screened, the risk of dying of colon cancer drops to less than 1 in 100. On a national scale, the cost of screening applied to those over 50 years old represents a significant amount (Table 7). Whether it is worth it depends upon the cost of care extended to those with incurable cancer and the value placed upon the cancer-free period of life in those in whom cancer was prevented or cured.[51]

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A Decade of Genetic Counseling

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An overview of one clinic's 10-year experience in the new field of genetic counseling is presented, along with descriptions of the advances and changes the discipline has undergone. The "geneticizing" of medicine will require that primary care physicians understand genetic counseling and use it in their future practices.

In 1976 we described our first year's experience in a new genetics clinic in the pages of this journal.[1] We recently completed 10 years of practice in clinical genetics. Looking back over this decade, we were struck by the remarkable strides that have been made in the field of clinical genetics and felt that this time interval might be an interesting point from which to review the progress in this discipline.[2]

Perhaps the most obvious example of these changes has been the description of new disorders as well as the recognition of the genetic basis for a number of previously described illnesses. One need only scan a tabulation of the number of disorders for which Mendelian patterns of inheritance are proven or suspected to appreciate the strides made in this area (Table 1). In just 11 years (1971 to 1982) this number almost doubled, while there was an eightfold increase during the 24 years that the catalogues have been maintained.

In cytogenetics, technical changes have allowed the routine observation of smaller structural details of human chromosomes. Through synchronization of cells it is possible to obtain prometaphase, as well as late phophase and prophase chromosomes for study (Fig. 1). These refinements have permitted the identification of small changes in chromosome structures in disorders such as the Prader-Willi syndrome[3] and a variety of neoplastic conditions.[4]

The study of inborn errors of metabolism has been a part of medicine from the turn of the 20th century, coinciding with the rediscovery of Mendel's classic paper. The 1971 edition of the McKusick catalogue listed 103 disorders for which specific enzyme activity deficiencies had been demonstrated in man.[5] Eleven years later there were 207 such disorders listed.[2] These advances were possible because of better techniques to separate both small and large molecules as well as improved methods for following enzymatic reactions. The small molecule techniques have largely been related to chromatography: first on paper and on "open" columns, and later, more efficient techniques that use smaller columns and automation. Several puzzling disorders were elucidated by the use of gas chromatography with identification of compounds by mass spectrometry. Electrophoresis with different kinds of support media has been invaluable for the separation of proteins. Improvements in photometry, using several different wavelength ranges as well as isotopic techniques, have allowed us to demonstrate the enzymatic abnormalities present in a

Table 1[2]

Number of Disorders for Which a Genetic Etiology is Known or Suspected

Year	Autosomal Dominant	Autosomal Recessive	X-linked	Total
1958	285	89	38	412
1966	837	531	119	1487
1968	793	629	123	1545
1971	943	783	150	1876
1975	1218	947	171	2336
1978	1489	1117	205	2811
1982	1827	1298	243	3368

number of illnesses.

As many people are aware from the popular press, we are currently in another technological revolution, namely, that of recombinant DNA. These tools revolve around the use of restriction endonucleases, a remarkable group of bacterial enzymes that cleave DNA at specific base sequences. These fragments can be isolated and amplified (cloned), or the nature of the different sized fragments can be studied electrophoretically. In human systems, this is usually done by hybridizing the separated fragment to a labeled, cloned piece of DNA that was either recovered from a digest of DNA, or synthesized from mRNA. The former procedure is often used to study "genes," which may not have a known function, but can be located on a genetic map of the organism. The latter procedure is used to study known proteins. Application of these molecular techniques include the prenatal diagnosis of sickle cell anemia and the alpha and beta thalassemias,[6] and the prediction of individuals likely to develop Huntington's disease.[7]

A variety of techniques have been used in the treatment of metabolic disturbances. We have had a sizeable experience in the use of special diets to restrict the availability of substrates that can be transformed into toxic compounds by alternative metabolic pathways. The principal examples are, of course, phenylketonuria and galactosemia. Also there are a number of diseases that can be ameliorated by the provision of a vitamin cofactor required for enzyme activity. For example, homocystinuria can be treated with pyridoxine (vitamin B_6) to increase activity of the abnormal enzyme. Attempts have been made to infuse purified enzymes to transplant organs. Bone marrow transplantation seems to have promise in immunodeficiency disorders, thalassemia, and perhaps some storage diseases. The number of patients is small because of the requirement for histocompatibility to minimize rejection problems.[6] Attempts have been made to make enzymes work more efficiently and to activate genes by the use of azacytidine.[8] There are a number of studies attempting to transfer working genes into deficient cells.

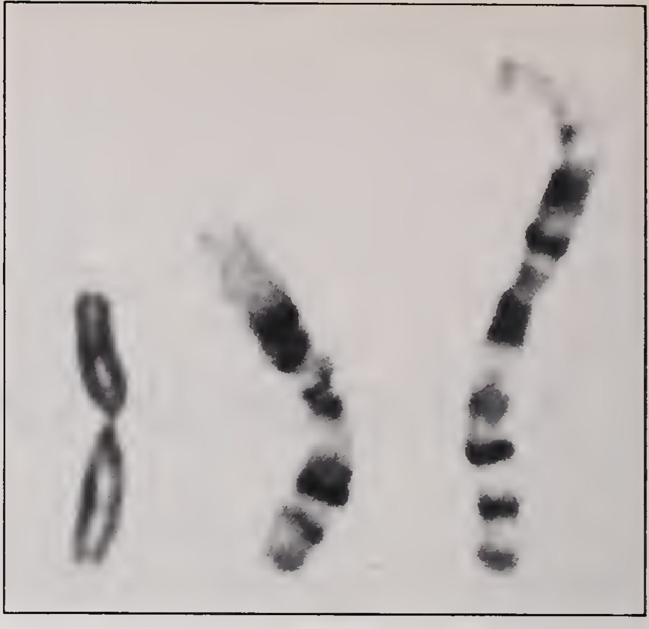

Figure 1. Three versions of chromosome number one: solid stained metaphase, giemsa-banded prometaphase, and giemsa-banded prophase (left to right).

Prenatal diagnosis is the area of clinical genetics that has generated the greatest interest and utilization by the general public. The most frequent indication is advanced maternal age, attempting to decrease the incidence of Down's syndrome and other chromosome disorders.

Approximately 200 other disorders can be diagnosed prenatally.[9] The list includes both morphological conditions detected ultrasonographically and biochemical defects requiring either chemical or enzymatic analysis. Amniotic fluid cells can be used directly for DNA analysis. This has been particularly useful in the antenatal diagnosis of hemoglobinopathies.[10] Use of amniotic fluid cells rather than blood obtained through a fetoscope reduces the risk of abortion from 5% or 10% to less than 0.5%.

Currently, the potential role for chorionic villus biopsy in prenatal diagnosis is being evaluated. This technique allows the diagnosis of fetal chromosomal and biochemical disorders in the first trimester of pregnancy. The main issue in current experimental trials is safety. The technique's main advantages are its speed, in that a chromosome analysis can be completed in one to three days, and the fact that a decision to terminate a pregnancy because of an abnormal result can be made in the first trimester.

On a more practical note for the Missouri practitioner, there are now outreach genetics clinics in eight cities (Kirksville, Poplar Bluff, Sikeston, Springfield, Rolla, Hannibal, Albany and Joplin), in addition to the four tertiary genetics centers (Children's Mercy Hospital in Kansas City, The University of Missouri Health Services Center in Columbia, St. Louis Chil-

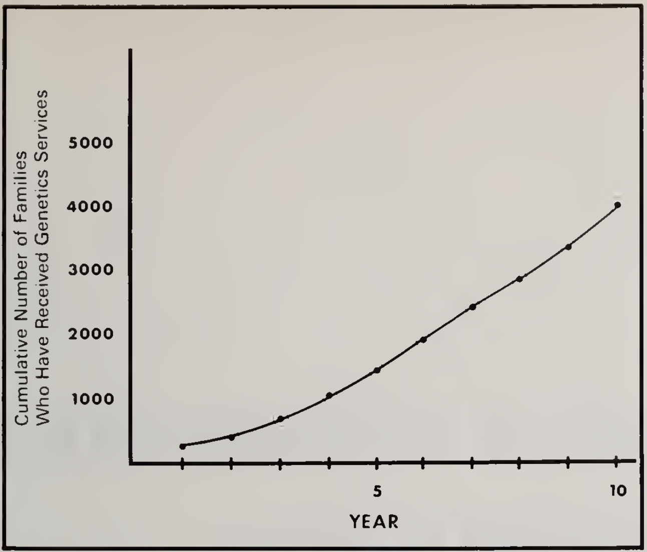

Figure 2. Cumulative plot of the number of families seen for genetic counseling at the Children's Mercy Hospital, 1974-1984.

dren's Hospital, and Cardinal Glennon Hospital in St. Louis). The outreach effort brings geneticists into various communities to assist local physicians in diagnosis, counseling and treatment. An added benefit is the opportunity to conduct educational programs for parents and professionals in their own communities.

At our own center, the number of families receiving genetic services continues to increase. In our first year, 194 families were seen. Last year, 659 families received genetic counseling. Cumulatively, 4,522 patients have been evaluated by the staff. The great increase in volume began in the fifth year when an agreement was reached with another hospital to provide counseling services to obstetric patients undergoing prenatal diagnosis. Approximately half of our patient contacts now involve obstetric patients considering amniocentesis. Greater than 90% of these women are being evaluated because of advanced maternal age.

Genetic disorders comprise a significant proportion of illness. Although we have not seen a comparable figure for adult services, more than 30% of admissions to pediatric hospitals are for genetic disorders and birth defects. The mechanisms range from the chromosome abnormalities, single gene defects, and include disorders that are believed to occur as a result of several genes and the environment. With the lengthening catalogue of single gene disorders, the burden is increasing. However, there are several disorders, such as neurofibromatosis and Huntington's disease, that are not rare conditions. Because of improved therapy, health care providers are faced with new challenges. Physicians now care for adult patients with cystic fibrosis and hemophilia more frequently than they did in the past. The care of the child with phenylketonuria has created a new problem, namely, the handicapped infant of the mother with PKU.[11]

Genetic factors are being recognized in the etiology of a growing list of common disorders. Familial aggregation has been recognized for a long time in some of these disorders. Representative problems include the affective disorders, hypertension, hyperlipoproteinemia, diabetes, learning disability, attention deficit disorder, coronary artery disease, cardiomyopathy, certain cardiac arrhythmias,[12] peptic ulcer, adult lactase deficiency, and a variety of cancers. Most primary care physicians see patients with at least one of these problems every day. Although the clinician is not being asked to provide formal genetic counseling for these disorders, ultimately each of his patients will be inquiring as to the likelihood that the disorder could be passed to future generations. It is this "geneticizing" of medicine to which physicians will need to respond in the future.

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Early Experience with Cyclosporine in Renal Transplantation

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The successful experience of one St. Louis transplant center with the use of cyclosporine immunosuppression following renal transplantation is described. Nephrotoxicity, a significant side effect, has been safely reversed by conversion to azathioprine therapy.

With the introduction of cyclosporine as an immunosuppressant, significant improvements in the results of extra-renal organ transplantation have occurred.[1,2] Because the major side effect of cyclosporine is nephrotoxicity, its role in renal transplantation is less well defined. Several centers have documented improved renal allograft and patient survival with cyclosporine use as compared with conventional immunosuppressive protocols.[3,4] Beginning in January 1984, a gradual transition to a protocol of cyclosporine and low-dose prednisone for renal allograft recipients was accomplished at our center. An analysis of our continuing experience in these patients forms the basis of this report.

Materials and Methods

Between January 1984 and June 1985, a total of 71 consecutive renal transplants were performed at the hospitals affiliated with St. Louis University. Nine patients who received conventional immunosuppression with prednisone and azathioprine were excluded. Sixty-two transplants performed on 60 patients, who received cyclosporine and prednisone, were available for analysis. There were 22 female and 40 male patients ranging in age from 11 months to 63 years old (mean = 33.6 years). Twenty-one patients were recipients of kidneys from living related donors, and 41 patients received cadaver kidneys.

Throughout this study interval, our criteria for donor selection and our techniques of organ retrieval and allotransplantation remained standard. The majority of recipients received at least one random third-party blood transfusion within six months of transplantation as part of our routine preparation for transplantation. Cadaver recipients were selected on the basis of a negative lymphocytotoxicity cross match utilizing current serum with a minor emphasis on HLA A, B and Dr matching. All kidneys procured locally underwent cold storage preservation after Collin's C-4 flush. Recipients of living related donor kidneys were one or two haplotype matched to their respective donors, and each recipient had a one-way mixed lymphocyte culture (MLC) performed against their prospective donor and at least two unrelated

Table 1

Cadaver Graft and Patient Survival

	Immediate	One Month	Three months	Current
Graft	32/41 (78%)	37/41 (90%)	23/29 (79%)	31/41 (76%)
Patient		33/33 (100%)	29/29 (100%)	30/31 (97%)

donors. Donor specific transfusions were not used prior to living related donor transplantation during this study interval.

All patients received a loading dose of oral cyclosporine (12.5 mg/kg) from four to 18 hours prior to transplantation. Following transplantation, intravenous cyclosporine (2 mg/kg) was administered every 12 hours until oral intake was resumed, at which time oral cyclosporine (12.5 mg/kg in two divided doses) was administered every 12 hours. No adjustment in this dosage regimen was made in the presence of post-transplant oliguria. At five to seven days post-transplantation, the dosage was tapered to 10 mg/kg/day. Over 4 to 6 weeks, a further reduction to 7 to 8 mg/kg/day was accomplished. A more rapid tapering of the cyclosporine dosage was performed in patients with suspected nephrotoxicity. All patients received intravenous methylprednisolone (62.5 mg) intraoperatively and for three doses over 36 hours postoperatively. Beginning on the second postoperative day, oral prednisone was initiated at 50 mg daily in two divided doses. Beginning seven days posttransplantation, the steroid dosage was tapered to achieve a dosage of 15 to 20 mg daily at one month after surgery. Rejection episodes were treated with local irradiation of the graft (600 rads in four divided doses) and a doubling of the maintenance steroid dose. Patients with stable renal function underwent routine conversion from cyclosporine to azathioprine at six months posttransplant.

Serum or whole blood trough levels of cyclosporine were measured three times weekly while the patient was hospitalized, and subsequently on each visit to the Outpatient Department. In patients with an elevated serum creatinine level and without clinical or renal scan evidence of rejection, the cyclosporine dose was tapered without regard to the serum level of cyclosporine. If renal dysfunction progressed, allograft biopsy was performed. Patients with serum cyclosporine levels greater than 400 ng/ml (or 1,000 ng/ml whole blood) underwent a tapering of their cyclosporine dose independent of the serum creatinine level.

The factors analyzed in these 62 transplants included: primary renal disease, incidence of multiple transplants, HLA A, B and Dr match, panel reactive alloantibody status (PRA), number of pretransplant blood transfusions and, in recipients of living related donors, the MLC stimulation index. The incidence of rejection and cyclosporine toxicity, as well as the current graft and patient survival, were determined for both cadaver and living related allograft recipients. In addition, the effect on graft function of conversion from cyclosporine to azathioprine therapy was assessed.

Results

Cadaver Recipients

High risk factors in the 41 cadaver transplants included: Type I diabetes mellitus (nine patients), age ≥50 years (four patients) and multiple transplants (six patients). The mean HLA A and B locus match was 0.90. Analysis of donor-recipient DR combinations identified 14 O-DR matches, 24 one-DR matches and 3 two-DR matches. The PRA status within six months prior to transplant ranged from 0% to 30% (mean = 5.6%), and the mean number of blood transfusions administered within one year of transplant ranged from 0 to 30 units (mean = 6.4 units). All but two patients received deliberate pretransplant third-party transfusions. Immediate, one month, three month, and current graft and patient survival figures are depicted in Table 1. In the 10 patients who lost graft function, five losses were due to irreversible rejection, one was due to arterial thrombosis, two were due to patient non-compliance, and one graft never functioned. The one death in this group was a patient who died with a functioning graft at 10 months posttransplant of a myocardial infarction.

The 31 patients with functioning grafts have been observed from one month to 18 months (mean = 7.1 months) posttransplantation, and their mean serum creatinine level at last follow-up examination was 2.5 mg%.

Seven cadaver kidney recipients underwent early conversion from cyclosporine to azathioprine for suspected cyclosporine toxicity. Time of conversion ranged from four weeks to 19 weeks (mean 8.6 weeks). Serum creatinine at the time of conversion ranged from 2.5% to 15.0 mg%, (mean = 7.6 mg%). One patient lost graft function secondary to acute rejection. In the other six patients, the serum creatinine levels ranged from 1.9 to 3.5 mg% (mean = 2.5 mg%) four weeks postconversion.

Living Related Recipients

Risk factors in these 21 transplants included: Type I diabetes mellitus (three patients) and age ≥50 years (five patients). This group consisted of 16 recipients with a one haplotype, and five recipients with a two haplotype match to their donors at the HLA A and B locus. The PRA status within six months prior to transplant ranged from 0% to 87% (mean 12.9%), and the number of blood transfusions administered within one year of transplant ranged from 0 to 16 units (mean

Table 2

Living Related Graft and Patient Survival with Cyclosporine

	Immediate	*One Month*	*Three Months*	*Current*
Graft	20/21 (95%)	20/21 (95%)	14/16 (88%)	19/21 (90%)
Patient		20/21 (95%)	15/16 (94%)	19/20 (95%)

= 3.5 units). Four patients in this group were never transfused. A one-way mixed lymphocyte culture test was performed preoperatively in 19 patients. The stimulation index ranged from 1.0 to 63.8 (mean = 14.3). Immediate, one month, three month, and current graft and patient survival figures are depicted in Table 2.

In the two patients who lost graft function, one was due to irreversible rejection, and the second patient, who had concomitant aortic stenosis, died two days postoperatively of an intractable ventricular arrhythmia.

In the 19 patients with functioning grafts, one patient has chronic rejection with a serum creatinine level of 8.2 mg%. The other 18 patients have been observed from one to 14 months (mean 5.8 months), with a mean serum creatinine level of 1.5 mg%.

Two living related donor organ recipients underwent conversion from cyclosporine to azathioprine therapy for suspected cyclosporine toxicity, at five and 5 ½ months. The serum creatinine levels at the time of conversion were 6.0 mg% and 3.0 mg%; at four weeks postconversion they were 2.3 mg% and 2.1 mg%.

Protocol Conversion to Azathioprine

Sixteen patients with stable renal function have undergone conversion to azathioprine at six months following transplantation. Three patients developed acute rejection during conversion, and in one patient, renal dysfunction persisted. The other two rejection episodes responded to an increase in the prednisone dosage. Excluding the patient with chronic rejection, the serum creatinine level prior to conversion ranged from 0.6 to 4.3 mg% (mean 1.9 mg%), and four weeks post conversion was 0.4 to 3.5 mg% (mean = 1.5 mg%).

Discussion

Cyclosporine is a biologically active polypeptide isolated by Dreyfuss as a metabolic product of the fungus *Tolypocladium inflatum*.[5] Its unique immunological properties were first described by Borel.[6] This was soon followed by reports of prolonged allograft survival with cyclosporine immunosuppression in experimental transplantation of various solid organs, including heart,[7] lung,[8] pancreas,[9] and kidney.[10] Early reports on the use of cyclosporine in patients receiving cadaver renal allografts demonstrated improved graft and patient survival when compared with conventional forms of immunosuppression.[11, 12] These earlier series were not randomized, and the cyclosporine-treated patients were compared to historical or concurrent control groups. In a prospective randomized trial of 100 mismatched living related and cadaver renal transplants, 48 cyclosporine-treated patients were compared with 52 patients treated with prednisone, azathioprine, and antithymocyte globulin.[13] Actuarial one-year graft survival was 93% in cyclosporine-treated patients and 81% in controls. The cyclosporine-treated patients had fewer rejection episodes and fewer infectious complications, especially a decrease in overt cytomegalic virus infections. In another prospective randomized multicenter trial, 103 cyclosporine-treated cadaver organ recipients were compared with 107 patients treated with conventional immunosuppression (prednisone and azathioprine).[14] After a median follow-up of eight months, graft survival (80.4% V 64%) and patient survival (96.6% V 86.4%) were significantly greater with cyclosporine immunosuppression. These favorable results with cyclosporine in cadaver renal allografting have now been confirmed by other centers.[15, 16]

The use of cyclosporine in living related donor organ transplantation is less well established. For one reason, well-matched living related donor organ transplantation is associated with excellent results using conventional immunosuppression, and a beneficial effect of cyclosporine would be difficult to demonstrate. An exception to this is when organs from donors who evoke significantly proliferative responses in mixed lymphocyte culture are used for transplantation. Under these conditions, allograft survival is comparable to that obtained with cadaveric organs. It is this subgroup that has undergone deliberate donor-specific transfusions in an attempt at immune response modulation. Although one-year graft survival in excess of 90% can result from this technique, 30% of potential recipients become sensitized to their prospective donor's tissue, and an alternate donor must be identified. Although experience with cyclosporine in these high-risk recipients is limited, Flechner reported graft and patient survivals of 92% and 97%, respectively, after a mean follow-up of 13.6 months in 36 consecutive haploidentical recipients with a donor specific MLC stimulation of greater than 6.5 who received cyclosporine immunosuppression.[18] Only six patients experienced a rejection episode, and in five instances, this was reversible.

The major limitation to the routine use of cyclosporine in both cadaver and living related renal transplantation is the associated nephrotoxicity, with incidences as high as 50% to 75% of clinical nephrotoxicity being reported.[19, 20] When more sensitive indices of renal function are examined, nephrotoxicity is even more frequent.[21]

In an attempt to avoid nephrotoxicity, methods for determining blood concentrations of cyclosporine have been developed. Unfortunately, monitoring of blood levels of cyclosporine has not been found helpful by most centers in avoiding this complication.[19, 20] Klintmalm observed serial cyclosporine levels in 69 renal transplant recipients.[22] During the study, interval dosage adjustments were made in relation to clinical events rather than trough levels of the drug. In patients with good renal function and no side effects, the average cyclosporine level decreased over time and corresponded to dosage reductions. There were no differences in cyclosporine levels in patients with or without delayed graft function. During episodes of nephrotoxicity, cyclosporine levels tended to be higher if the episode occurred in the first month. In subsequent months, many patients had normal, or even low levels during the toxic episodes. There was no correlation between cyclosporine levels and acute rejection episodes.

The difficulties in distinguishing cyclosporine toxicity from other causes of an elevated serum creatinine level, and the variable correlation of cyclosporine blood levels with clinical events have stimulated an evaluation of the role of other diagnostic techniques in detecting cyclosporine toxicity. These techniques have included renal biopsies or measurements of intrarenal pressures in patients with posttransplant renal dysfunction.[24]

Von Willebrand[25] demonstrated the presence of cyclosporine in the renal parenchyma by indirect immunofluorescence in the fine needle aspiration biopsy specimens of patients with clinical evidence of nephrotoxicity. With a reduction in the drug dosage, these deposits disappeared and transplant function improved. Despite these techniques, currently the only definitive means to differentiate rejection from a toxic reaction is to test the response of the serum creatinine level to either a decreased cyclosporine dosage or additional immunosuppressive therapy. Until a satisfactory therapeutic index of cyclosporine therapy can be identified, several techniques to minimize toxicity can be adopted. Merion et al[3] recommend that cyclosporine be administered to transplant recipients only after diuresis is established. In addition, to minimize the potential for long-term nephrotoxicity, several centers have recommended routine conversion from cyclosporine to azathioprine therapy at some arbitrary time interval in stable allograft recipients.[26, 27] Other techniques include minimizing the duration of intravenous cyclosporine therapy, and tapering the cyclosporine dosage independently of the cyclosporine blood levels.

Our results substantiate the beneficial effects of cyclosporine in renal transplantation. This is most evident in our mortality rates. Only two patients (3.2%) have died following transplantation, both secondary to cardiovascular complications. In contrast with our experience with conventional immunosuppression, infectious complications have been infrequent. This has led to a marked decrease in morbidity, even in previous high-risk patients (diabetics, age > 50 years). Cyclosporine toxicity has been a significant problem, in particular with cadaver kidney recipients. In our experience, conversion to azathioprine therapy was associated with reversal of this nephrotoxicity in most cases. It has been our policy to convert all recipients with stable renal function from cyclosporine to azathioprine at six months posttransplantation, to minimize the potential for long-term nephrotoxicity. In more than 80% of cases, this can be accomplished without incident; however, rejection episodes can occur, and close monitoring of renal function is essential during conversion.

In conclusion, the use of cyclosporine in renal allografting has resulted in excellent graft and, in particular, patient survival at our center. Although nephrotoxicity is significant, it is safely reversed by conversion to azathioprine treatment. It is anticipated that more flexible dosage regimens should reduce the incidence of this complication.

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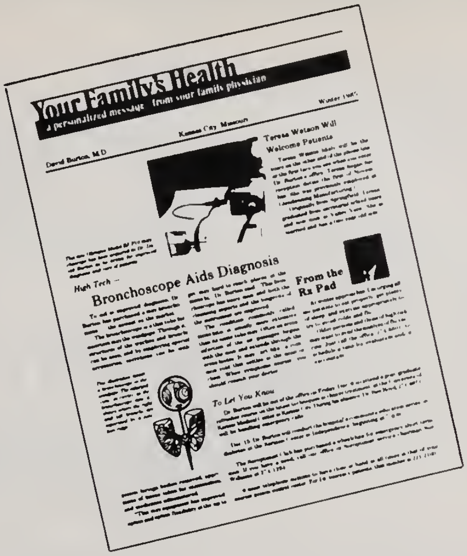
Brush Up On Your Shakespeare

The inquiring medical mind will easily realize our present pitiful plight was long ago foreseen by William Shakespeare, who obviously was trying to send us a message in Hamlet's Soliloquy.

To be or not to be, *(a doctor)* that is the question
Whether it is nobler in the mind *(mental imbalance)*
To bear the slings and arrows of outrageous fortune *(the lawyers)* or to take up arms against a sea of troubles *(the government)* and by opposing, end them *(lock your office).*
To die, to sleep no more, *(commit suicide),* and by a sleep to say we end the heartache *(Medicare)* and thousand natural shocks *(DRG)* that flesh is heir to *(Senator Rostenkowski).*
To die, to sleep, to sleep perchance to dream *(malpractice fears)* aye, there's the rub *(first suit)*
For in that sleep of death, *(between suits)* what dark dreams may come *(second suits)* when we have shuffled off this mortal coil *(malpractice settlement)*
Makes us pause: There's the reckoning *(rising overhead)*
Gives calamity to so long life *(continue to practice)*
For who would bear the ships and scorns of time, *(malpractice claims)*
The oppressor's wrong the proud man's contumely, *(hospital administrator)*
The pangs of despised love, *(the plaintiff)* the law's delay, *(the deposition)*
The insolence of office *(plaintiff's lawyer)* and the slurs that patient merit of the unworthy takes *(plaintiff witness)*
When he himself might his own quietus make *(lose your cool)*
With a bare bodkin: *(countersuit)*
Who would fardels bear to grunt and sweat under a weary life *(general surgery)*
But that something after death, the undiscovered country *(tissue committee)* from which no traveler returns, *(medical records department)* puzzles the mind, and makes us rather bear those ills we have *(malpractice insurance)* than fly to others we know not of *(punitive damage).*
Thus, does conscience make cowards of us all *(retire early)*

James J. Lally, M.D.
Kansas City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MSMA'S
128th Annual Convention
April 3-6, 1986
St. Louis Marriott Pavilion Hotel

Specialty Sponsored Program Events

ALLERGY

Saturday, April 5

8:55 a.m.-12:00 noon — Scientific Program sponsored by the Missouri State Allergy Association

- 8:55 Greetings, Announcements and Introduction, Marvin Kahn, M.D., Kansas City
- 9:00 *"Airways Hyperreactivity — Mechanisms and Clinical Relevance"*
  Speaker: Eugene Bleeker, M.D., Associate Professor of Medicine, Division of Pulmonary Medicine, Francis Scott Key Medical Center, and Johns Hopkins Medical Institutions, Baltimore, Maryland
- 9:40 *"Anticholinergic Therapy in Obstructive Airways Disease"*
  Speaker: Eugene Bleeker, M.D.
- 10:10 Refreshment Break.
- 10:20 *"Sleep Apnea — The Diagnosis"*
  Speaker: Mark H. Sanders, M.D., Director, Clinical Pulmonary Sleep Evaluation Laboratory, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.
- 11:00 *"Sleep Apnea — The Treatment"*
  Speaker: Mark H. Sanders, M.D
- 11:30 Discussion
  Moderator: Marvin Kahn, M.D., Kansas City.

12:00 noon — Missouri State Allergy Association Luncheon

1:30-3:45 p.m. — Scientific Program Sponsored by the Missouri State Allergy Association

- 1:30 *"Allergic Bronchopulmonary Aspergillosis — Revisited"*
  Speaker: Ray Slavin, M.D., Professor of Medicine, St. Louis University School of Medicine, St. Louis.
- 2:10 *"Intricacies of AIDS Testing"*
  Speaker: Larry Sherman, M.D., Director, Red Cross Blood Center, St. Louis.
- 2:40 *"Aeroallergens of the Midwest"*
  Speaker: Jean Chapman, M.D., Cape Girardeau.
- 3:20 Discussion and Refreshments.
  Moderator: Marvin Kahn, M.D., Kansas City.

4:00 p.m. — Missouri State Allergy Association Annual Business Meeting.

Sponsored by the Missouri State Allergy Association

ANESTHESIOLOGY

Friday, April 4

6:30 p.m. — Missouri Society of Anesthesiologists Cocktails and Dinner, followed by entertainment.

Saturday, April 5

8:00 a.m. — Missouri Society of Anesthesiologists Board of Directors Breakfast and Board Meeting.

8:00 a.m. — Missouri Society of Anesthesiologists Continental Breakfast.

8:30 a.m.-12:00 noon — Scientific Program sponsored by the Missouri Society of Anesthesiologists.
"The Role of the Anesthesiologist in Outpatient Anesthesia"
Speaker: Bernard V. Wetchler, M.D., Director, Department of Anesthesiology, Medical Director, Ambulatory Surgery Center, Methodist Medical Center of Illinois, Peoria, Illinois, Clinical Professor and Chief, Division of Anesthesia, University of Illinois College of Medicine, Peoria, Illinois.

9:20-10:10 a.m.	*"The Nutritional Aspects of Anesthesia and Intensive Care"* Speaker: Jeffrey Askanazi, M.D., Assistant Professor of Anesthesiology, Columbia University, New York, New York.
10:10 a.m.	Coffee Break.
10:30-11:20 a.m.	*"Anesthesia for Major Vascular Procedures"* Speaker: Patricia Hartwell, M.D., Fellow in Cardiovascular Anesthesia, Barnes Hospital/Washington University School of Medicine, St. Louis.
11:20 a.m.-12:00 noon	Questions and Answers. Panelists: Drs. Hartwell, Askanazi and Wetchler. Moderator: George W. Eggers, M.D., Columbia.
12:00 noon	Missouri Society of Anesthesiologists Luncheon and Business Meeting.
2:00-4:00 p.m.	Scientific Program sponsored by the Missouri Society of Anesthesiologists. *"Liver Transplantation"* Speaker: Carey I. Weiss, M.D., Instructor in Anesthesiology, Acting Director of Cardiothoracic Anesthesia, Director of Anesthesia for Organ Transplantation, Washington University School of Medicine, St. Louis.
2:45-3:30 p.m.	*"The Interface Between Medicine and Law, and its Terminology"* Speaker: Saul Boyarsky, M.D., J.D., Professor of Genitourinary, Surgery, Urology and Law, Washington University School of Medicine, St. Louis.
3:30-4:00 p.m.	Questions and Answers. Panelists: Drs. Weiss and Boyarsky. Moderator: George P. Hoech, M.D., Kansas City.

Sponsored by the Missouri Society of Anesthesiologists

CANCER

Friday, April 4

2:00-3:30 p.m.	Scientific Program sponsored by the American Cancer Society, Missouri Division, Inc. *"Cancer Epidemiology and the Practicing Physician"* Speaker: Morton Levy, M.D., Medical Oncologist, St. Louis. *"A Guide to Flexible Sigmoidoscopy in Primary Care"* Speaker: James Butt, M.D., Chief, Gastroenterology, University of Missouri/VA Hospital, Columbia. *"Smokeless Tobacco"* Speaker: Oscar Guerra, D.D.S., Dental Oncologist, Ellis Fischel State Cancer Hospital, Columbia.

Sponsored by the American Cancer Society, Missouri Division, Inc.

Saturday, April 5

1:30-4:00 p.m.	Scientific Program sponsored by the American Cancer Society, Missouri Division, Inc., and the Missouri Radiological Society. Detection and Treatment of Early Breast Cancer *"Diagnosis: The Missouri Breast Cancer Detection Demonstration Project (BCDDP)"* Speaker: Charles Blackwell, M.D., Diagnostic Radiologist, Cancer Research Center — Ellis Fischel Hospital, Columbia. *"Surgery: The National Surgical Adjuvant Breast Project (NSABP) Experience"* Speaker: D. Lawrence Wickerman, M.D., Assistant Director NSABP, Assistant Research Professor of Surgery, University of Pittsburgh, Pittsburgh, Pennsylvania. *"Radiation Therapy: Techniques and Results"* Speaker: Bruce J. Walz, M.D., Associate Radiation Oncologist, Mallinckrodt Institute of Radiology, St. Louis Panel Discussion: Drs. Blackwell, Wickerman and Walz. Moderator: Dan T. Sullivan, M.D., Springfield.

Sponsored by the American Cancer Society, Missouri Division, Inc. and the Missouri Radiological Society

DERMATOLOGY

Friday, April 4

12:00 noon	Missouri Dermatological Society, Inc. Board of Directors Luncheon and Meeting.
1:00-4:30 p.m.	Scientific Program sponsored by the Missouri Dermatological Society, Inc. 1:00 Introduction: Jerome M. Aronberg, M.D., President, Missouri Dermatological Society, Inc., St. Louis 1:05 *"Extracorporeal Photopheresis Therapy in Cutaneous T Cell Lymphoma and Other T Cell Diseases"* Speaker: Brian V. Jegasothy, M.D., Professor of Dermatology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. 2:00 *"Mini-Case Presentations"* Speaker: Charles W. Miller, M.D., St. Louis. 3:00 Refreshment Break. 3:15 *"The Significance of Lymphokines in Cutaneous Disease"* Speaker: Brian V. Jegasothy, M.D. 4:15 Questions and Answers.
6:30 p.m.	Missouri Dermatological Society, Inc., Cocktails and Dinner. Cocktails and hors d'oeuvres sponsored by Westwood Pharmaceuticals.

Saturday, April 5

8:00 a.m.-4:30 p.m.	American Academy of Dermatology Course, *"Pediatric Dermatology"*

Sunday, April 6

9:00 a.m.	Scientific Program sponsored by the Missouri Dermatological Society, Inc., Barnes Medical Center, 5th floor, St. Louis.

9:00 *"Clinical Case Presentations"*
10:00 Refreshment Break.
10:30 *"Discussion of Patient Presentations"*
11:30 General Membership Meeting of the Missouri Dermatological Society, Inc.

Sponsored by the Missouri Dermatological Society, Inc.

FAMILY PHYSICIANS

Saturday, April 5

11:00 a.m.-12:30 p.m. Scientific Program sponsored by the Missouri Academy of Family Physicians.
"Oversupply of Physicians and Its Ramifications"
Speaker: Robert Graham, M.D., Executive Vice President, American Academy of Family Physicians, Kansas City.
Moderator: William C. Allen, M.D., Columbia.

1:30-3:00 p.m. Scientific Program sponsored by The Missouri Academy of Family Physicians.
"PRO and DRG Reimbursements"
Speaker: Mohammed Akhter, M.D., Executive Vice President and Medical Director, Missouri Patient Care Review Foundation, Jefferson City.
Moderator: William C. Allen, M.D., Columbia

Sponsored by The Missouri Academy of Family Physicians

HEART

Saturday, April 5

11:00 a.m.-12:30 p.m. Scientific Program sponsored by the American Heart Association, Missouri Affiliate, Inc.

Sponsored by the American Heart Association, Missouri Affiliate, Inc.

INTERNAL MEDICINE

Friday, April 4

1:30-3:30 p.m. Scientific Program sponsored by the Missouri Society of Internal Medicine.
"Why Health Costs Really Aren't Rising"
Speaker: John Layle, M.D., Vice President of the Missouri Society of Internal Medicine, Kansas City.
Refreshment Break.
"What We Should Do About It"
Speaker: John Layle, M.D.

Sponsored by the Missouri Society of Internal Medicine

Saturday, April 5

1:00-4:00 p.m. Missouri Society of Internal Medicine Board of Directors Meeting.

NEUROSURGERY

Saturday, April 5

12:00 noon Missouri State Neurosurgical Society Luncheon and Business Meeting.

Sponsored by the Missouri State Neurosurgical Society

OBSTETRICS-GYNECOLOGY

Saturday, April 5

8:00 a.m.-12:00 noon Scientific Program sponsored by the Missouri Section of ACOG.
8:00 Registration.
8:50 Welcome, George Fuchs, M.D., Vice Chairman, Missouri Section of ACOG, Columbia.
Climacteric Medicine Seminar
9:00 *"Climacteric Medicine: An Overview"*
Speaker: Morris Notelovitz, M.D., Ph.D., Professor, Obstetrics and Gynecology, Director, Center for Climacteric Studies, University of Florida, Gainesville, Florida
9:30 *"Osteoporosis: Epidemologic, Medical and Economic Concerns"*
Speaker: Robert Lindsay, M.B.Ch.B., Ph.D., F.R.C.P., Director of Research, Helen Hayes Hospital, West Haverstraw, New York.
10:00 Coffee Break.
10:30 *"Postmenopause — The Place of Estrogen and Progesterone"*
Speaker: Wulf H. Utian, M.D., Ph.D., Associate Professor, Reproductive Biology, The Mt. Sinai Medical Center, Cleveland, Ohio.
11:00 *"Exercise and Calcium as it Relates to the Postmenopause"*
Speaker: Morris Notelovitz, M.D., Ph.D.
11:30 Question and Answer Period.

12:00 noon Missouri Section of ACOG Buffet Luncheon.

1:00-2:00 p.m. Scientific Program sponsored by the Missouri Section of ACOG.
Climacteric Medicine Seminar
1:00 *"Sex in the Climacteric Population"*
Speaker: William H. Masters, M.D., Co-Director, Masters and Johnson Institute, St. Louis.
2:00 *Question and Answer Period.*

Sunday, April 6

9:00 a.m. Missouri Section of ACOG Board Meeting.

Sponsored by the Missouri Section of ACOG

OPHTHALMOLOGY

Friday, April 4

7:00 p.m. Missouri Ophthalmological Society, Inc. Board of Directors Dinner.

Saturday, April 5

8:30-11:45 a.m. Scientific Program sponsored by the Missouri Ophthalmological Society, Inc.
Resident's presentation of Scientific Papers from:
University of Missouri-Columbia School of Medicine, Columbia.
University of Missouri-Kansas City School of Medicine, Kansas City.
Washington University School of Medicine, St. Louis.
St. Louis University School of Medicine, St. Louis.
University of Kansas School of Medicine, Kansas City, Kansas.

10:00 a.m. Refreshment Break.

11:45 a.m.-1:15 p.m. Missouri Ophthalmological Society, Inc. Luncheon and Business Meeting.

1:30-4:00 p.m. Continuation of Scientific Program sponsored by the Missouri Ophthalmological Society, Inc.

Sponsored by the Missouri Ophthalmological Society, Inc.

OTOLARYNGOLOGY

Friday, April 4

6:30 p.m. Missouri Society of Otolaryngology/Head and Neck Surgery Board of Directors Meeting.

Saturday, April 5

7:30-8:45 a.m. Missouri Society of Otolaryngology/Head and Neck Surgery Breakfast Meeting.

9:00-11:00 a.m. Scientific Program sponsored by the Missouri Society of Otolaryngology/Head and Neck Surgery.

9:00 *"The Contralateral Laryngoplasty"*
Speaker: William H. Friedman, M.D., St. Louis.

9:15 *"Otoplasty Following Cutaneous Tumor Excision from the Pinna"*
Speaker: Gregory J. Renner, M.D., Columbia.

9:30 *"Innovations in Craniofacial Reconstruction"*
Speaker: Richard E. Hayden, M.D., St. Louis.

9:45 *"An Unusual Application of the Myocutaneous Flap"*
Speaker: Barry Rosenblum, M.D., St. Louis.

10:00 *"A Comparison of Current Cochlear Implants"*
Speaker: Margaret W. Skinner, Ph.D., St. Louis. Susan M. Binzer, M.A., St. Louis.

10:15 *"Nasal Spine Suspension for Reduction and Fixation of Selected Mandibular Fractures"*
Speaker: Gregory J. Renner, M.D., Columbia.

10:30 *"Clinical Indications for the Decompression of the Facial Nerve Through the Middle Fossa Approach"*
Speaker: Peter G. Smith, M.D., Ph.D., St. Louis.

10:45 *"Steps to Safe Osteotomies in Cosmetic Rhinoplasties"*
Speaker: J. Regan Thomas, M.D., St. Louis.
Moderator: Peter G. Smith, M.D., Ph.D., St. Louis.

Sponsored by the Missouri Society of Otolaryngology/Head and Neck Surgery

PATHOLOGY

Friday, April 4

2:00-4:00 p.m. Scientific Program sponsored by the Missouri Society of Pathologists
"Fine Needle Aspiration Cytopathology: Values and Limitations"
Speaker: Carlos Bedrossian, M.D., Professor of Pathology, Director of Cytopathology and Immunocytochemistry, St. Louis University School of Medicine, St. Louis.
"Use of Immunocytochemistry and Electron Microscopy in the Metastatic Workup"
Speaker: Carlos Bedrossian, M.D.

6:30 p.m. Missouri Society of Pathologists Cocktails and Dinner. Business and Board meeting following dinner.

Sponsored by the Missouri Society of Pathologists

PHYSICAL MEDICINE AND REHABILITATION

Saturday, April 5

9:00 a.m.-12:00 noon Scientific Program sponsored by the Central Society of Rehabilitation Medicine.
Coffee Break.

12:00 noon Central Society of Rehabilitation Medicine Luncheon and Business Meeting.

Sponsored by the Central Society of Rehabilitation Medicine

PSYCHIATRY

Friday, April 4

1:00-4:00 p.m. Scientific Program sponsored by the Missouri Psychiatric Association.

6:30 p.m. Missouri Psychiatric Association Cocktails and Dinner.

Sponsored by the Missouri Psychiatric Association

RADIOLOGY

Saturday, April 5

7:30 a.m. Missouri Radiological Society Board of Directors Breakfast and Meeting.

10:00-11:30 a.m. Missouri Radiological Society Board of Directors Meeting.

12:00 noon Missouri Radiological Society Luncheon.

1:30-4:00 p.m. Scientific Program sponsored by the Missouri Radiological Society and the American Cancer Society, Missouri Division, Inc.

Detection and Treatment of Early Breast Cancer

"Diagnosis: The Missouri Breast Cancer Detection Demonstration Project (BCDDP)"

Speaker: Charles Blackwell, M.D., Diagnostic Radiologist, Cancer Research Center — Ellis Fischel Hospital, Columbia.

"Surgery: The National Surgical Adjuvant Breast Project (NSABP) Experience"

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"Radiation Therapy: Techniques and Results"

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Panel Discussion: Drs. Blackwell, Wickerman and Walz.

Moderator: Dan T. Sullivan, M.D., Springfield.

4:00 p.m. Missouri Radiological Society Business Meeting.

5:00 p.m. Missouri Radiological Society Cocktails.

Sponsored by the Missouri Radiological Society

SURGERY

Friday, April 4

11:00 a.m.-12:30 p.m. Scientific Program sponsored by the Missouri State Surgical Society.

Surgical Nutrition

"Total Management of the Short Gut Syndrome"

Speaker: Dennis W. Shermeta, M.D., Professor of Surgery and Pediatrics, University of Chicago Hospital and Clinics, Surgeon and Chief, Wyler Children's Hospital, Chicago, Illinois.

"Central and Peripheral Hyperalimentation: The Team Approach"

Question and Answer Session.

Moderator: Michael J. Bukstein, M.D., Hannibal.

2:00-3:30 p.m. Scientific Program sponsored by the Missouri State Surgical Society.

Pediatric Surgery

"Neonatal Bowel Obstruction"

Speaker: Ronald J. Sharp, M.D., Pediatric Surgeon, Director of Burn Unit, Children's Mercy Hospital, Kansas City.

"Appendicitis Management"

Speaker: Richard J. Bower, M.D., Associate Professor of Pediatric Surgery, Washington University School of Medicine, St. Louis.

"Pediatric Hernias"

"Anti-reflux Procedures in Neurologically Impaired Children"

Question and Answer Session.

Moderator: Mary Alice Helikson, M.D., Columbia.

3:30 p.m. Missouri State Surgical Society Annual Business Meeting.

Saturday, April 5

11:00 a.m.-12:30 p.m. Scientific Program sponsored by the Missouri State Surgical Society.

Role of the Radiologist in Abdominal Surgical Problems

"CT and Radionuclide Scanning in the Management of Abdominal Trauma"

Speaker: Richard J. Tully, M.D., Associate Professor of Radiology, University of Missouri-Columbia Hospital and Clinics, Columbia.

"Radiologic Catheter Drainage of Abdominal Abscesses"

Speaker: Dennis Balfe, M.D., Mallinckrodt Institute of Radiology, Barnes Hospital, St. Louis.

"Percutaneous Biliary Drainage"

Speaker: Phillip Weyman, M.D., Mallinckrodt Institute of Radiology, Barnes Hospital, St. Louis.

Question and Answer Session.

Moderator: John B. Buettner, M.D., St. Louis.

Sponsored by the Missouri State Surgical Society

THORACIC

Friday, April 4

11:00 a.m.-12:30 p.m. Annual Charles A. Brasher, M.D. Medical Lectureship, sponsored by the Missouri Thoracic Society and American Lung Associations of Eastern and Western Missouri.

Sponsored by the Missouri Thoracic Society and the American Lung Associations of Eastern and Western Missouri

UROLOGY

Friday, April 4

11:00 a.m.-12:30 p.m. Scientific Program sponsored by the Missouri Urological Society.

Sponsored by the Missouri Urological Society

WOMEN PHYSICIANS

Saturday, April 5

12:00 noon American Medical Women's Association Luncheon.

Sponsored by the American Medical Women's Association

. . . Just a few Annual Convention Highlights . . .

Thursday, April 3

8:00 a.m.	Registration of Delegates, Main Lobby
10:30 a.m.	House of Delegates, Opening Session.
12:00 noon	Jackson County Medical Society Luncheon.
12:00 noon	St. Louis Metropolitan Medical Society Luncheon.
1:30 p.m.	Reference Committee Meetings

Friday, April 4

7:00 a.m.	MSMA Councilor District Breakfasts.
8:00 a.m.	Registration, Main Lobby.
8:30 a.m.	Missouri University Board of Directors Breakfast and Meeting.
9:00-10:30 a.m.	General Session.
10:30 a.m.	Intermission to View Exhibits.
12:00 noon	Jackson County Medical Society Luncheon.
12:30 p.m.	Student Councilor District Luncheon.
12:30 p.m.	Missouri University Medical Alumni Luncheon.
2:00 p.m.	St. Louis Metropolitan Medical Society Caucus
2:30-4:00 p.m.	Missouri State Medical Foundation Annual Meeting
3:30 p.m.	Intermission to View Exhibits.
4:00 p.m.	House of Delegates, Second Session.
6:00-7:30 p.m.	Washington University Medical Alumni Reception.
6:00-7:30 p.m.	St. Louis University Medical Alumni Reception.

Saturday, April 5

7:00 a.m.	Councilor District #10 Breakfast.
7:30 a.m.	MSMA Auxiliary Public Affairs Breakfast.
8:00 a.m.	Registration, Main Lobby.
9:30 a.m.	Discuss the Issues with your AMA Delegates.
10:30 a.m.	Intermission to View Exhibits.
1:30 p.m.	Missouri Medical Political Action Committee Meeting.
1:30 p.m.	Intermission to View Exhibits.
5:00-6:00 p.m.	Missouri University Medical Alumni Reception.
6:00-7:00 p.m.	Presidential Inauguration.
7:00-8:00 p.m.	MSMA Reception.

Sunday, April 6

7:30 a.m.	House of Delegates Breakfast and Final Session.

The MSMA Auxiliary presents

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Details at the '86 Convention

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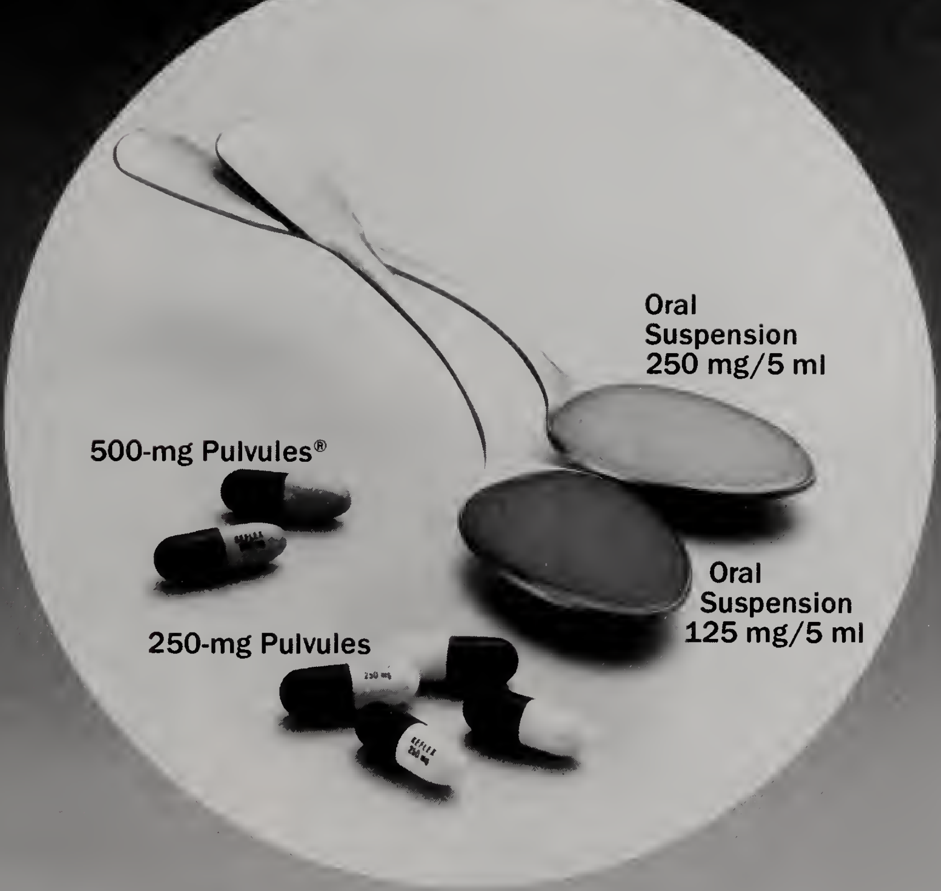
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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions.*) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions.*) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C*: There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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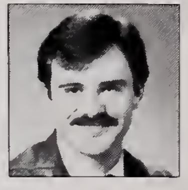

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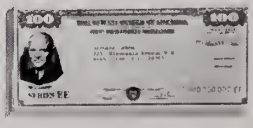

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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

March

10 **City-Wide Radiology Conference on "Critical Appraisal of the MRI Experience in Neuroradiology, 2000 Consecutive Cases"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

10-11 **32nd Annual Urology Seminar** — Location: Kansas City Westin Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

12-13 **Annual Postgraduate Pediatrics Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

14 **Depression and Preschoolers** — Location: St. Louis State Hospital. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

18 **Schizophrenia** — Location: St. Louis State Hospital, Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

19-20 **Advanced Cardiac Life Support Provider Course** — Location: Francisco Lounge, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

20 **Mental Health Care and the Homeless: A Symposium** — Location: Adam's Mark Hotel, Kansas City. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

21 **Crisis Management and Maintenance of Schizophrenic Outpatients** — Location: St. Louis State Hospital. Contact: Anna Zahner, CME, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis 63139. 314/644-8803.

22-23 **Advanced Cardiac Support** — Location: University of Missouri Health Sciences Center, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25 **Sam E. Roberts Nutrition Symposium** —Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

27 **Common Problems in the Nursery** — Location: Doubletree Hotel and Conference Center, Chesterfield, Missouri. Co-sponsored by Cardinal Glennon Hospital and St. Louis University School of Medicine. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

28 **AIDS: Are You at Risk?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

April

1 **Common Gastroenterology Problems** — Location: Alameda Plaza Hotel, Kansas City. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 6103. 913/588-4480.

4 **Cardiology** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816/276-4306.

5 **The Brain and the Heart: Inter-relation in Psychiatric and Cardiac Patient Management** — Location: Omni International Hotel, St. Louis Union Station. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

10-11 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

10-11 **Fourth Annual Conference on Alzheimers** — Location: Tan-Tar-A Resort, Lake of the Ozarks. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

11 **Fourth Annual Trauma Seminar** — Location: Holiday Inn, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

17-18 **Fourth Annual Conference on Alcholism** — Location: Breckenridge Hotel, St. Louis. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

17-18 **Microcomputer Jungle: Impact on Health Care** — Location: Doubletree Hotel, Overland Park, Kansas. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

18-20 Diabetes Mellitus — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, MA215 Health Sciences Center, Columbia 65212. 314-882-2256.

21-23 Surgery of the Paranasal Sinuses — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

25 **Pediatric Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25-26 **Arthritis Conference** — Location: University of Missouri-Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25-26 **Primary Pediatrics Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-2256.

22-27 **Thirty-sixth Annual Postgraduate Symposium on Anesthesiology** — Location: Crown Center Hotel, Kansas City, Missouri. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, MA215 Health Sciences Center, Columbia 65212. 314-882-2256.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

13-14 **Infection Control: How Do We Live with AIDS?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

17 **First Annual Anesthesia Symposium** — Location: St. Louis. Contact: Christian Hospital, Anesthesia Dept., 11133 Dunn Rd., St. Louis 63136. 314/355-2300, ext. 5022.

17 **Annual Spring Scientific Seminar on Pathology** — Location: Rieke Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

22-23 **Group Skills for Human Service Workers** — Location: LE Cox Hospital, Springfield. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

6-7 **First Annual Pediatric Conference** — Location: University of Missouri-Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

July

10-13 **Fifth Annual Summer Medical Symposium: "Medicine for the Practicing Physician"** — Location: Broadmoor Hotel, Colorado Springs, Colo. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913/588-4480.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

Physician's Recognition Awards

Twenty-eight MSMA members qualified for the MSMA-AMA Physician's Recognition Award during December 1985.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Clay-Platte

Frank J. Albani, *Liberty*
Jose R. Somoza, *North Kansas City*

Cole

Kenneth K. C. Siu, *Jefferson City*

Dunklin

Pin H. Pu, *Kennett*

Franklin-Gasconade-Warren

Thomas J. Mitchell, *St. Clair*

Greene

Iraj Jahanian, *Springfield*

Jackson

Pat A. Barelli, *Kansas City*
Bela Csaki, *Independence*
Edwin M. Herman, *Kansas City*
Jose C. Kayanan, *Kansas City*
David L. Smith, *Kansas City*

Jasper

Ramona M. Chapman, *Joplin*
Thomas B. Moore, *Joplin*

Mid-Missouri

Teodoro C. Tang, *Salem*

Mineral Area

Adolph J. Herath, *Farmington*

Ozarks

Rama M. Gudapati, *Aurora*

Pemiscot

Warren R. McCoy, *Caruthersville*

SEMO

Edwin J. Masters, *Sikeston*

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Victor H. Albera, *St. Clair*
Olga M. Blair, *St. Louis*
Arnold S. Block, *St. Louis*
Paul B. Convery, *St. Louis*
Simon Horenstein, *St. Louis*
Barbara Kuhlengel, *Webster Groves*
Levy M. Maravilla, *St. Louis*
Philip L. Martin, *Crestwood*
Edward J. O'Brien, *St. Louis*

West Central

Richard C. Price, *Harrisonville*

In Memoriam

■ **Harry Agress, M.D.,** 900 S. Hanley Road, St. Louis 63105; graduate of Washington University, 1932; member of the St. Louis Metropolitan Medical Society; age 78; died Jan. 15, 1986.

■ **Eugene C. Black, M.D.,** 1700 Bryant Bldg., c/o J. G. McEachen, Kansas City 64106; graduate of the University of Kansas, 1922; member of the Jackson County Medical Society; age 90; died Dec. 24, 1985.

■ **Mark D. Eagleton, M.D.,** Mari De Villa Retirement Center, 13900 Clayton Rd., Manchester 63011; graduate of Washington University, 1950; member of the St. Louis Metropolitan Medical Society; age 58; died Dec. 24, 1985.

■ **Peter J. Manion, M.D.,** 6405 Murdoch Ave., St. Louis 63109; graduate of St. Louis University, 1925; member of the St. Louis Metropolitan Medical Society; age 84; died Dec. 28, 1985.

■ **James P. Murphy, M.D.,** 1210 Brownell, St. Louis 63122; graduate of St. Louis University, 1938; member of the St. Louis Metropolitan Medical Society; age 74; died Jan. 12, 1986.

■ **Mort D. Pelz, M.D.,** 1116 Chantal Lane, St. Louis 63132; graduate of Washington University, 1919; member of the St. Louis Metropolitan Medical Society; age 90; died Nov. 23, 1985.

■ **Harry E. Raybuck, M.D.,** 1245 Graham Road, Florissant 63031; graduate of the Medical College of Georgia, 1959; member of the St. Louis Metropolitan Medical Society; age 57, died Dec. 22, 1985.

■ **Maurice B. Roche, M.D.,** 13900 Clayton Road, Manchester 63011; graduate of the St. Louis University, 1933; member of the St. Louis Metropolitan Medical Society; age 80; died Dec. 16, 1985.

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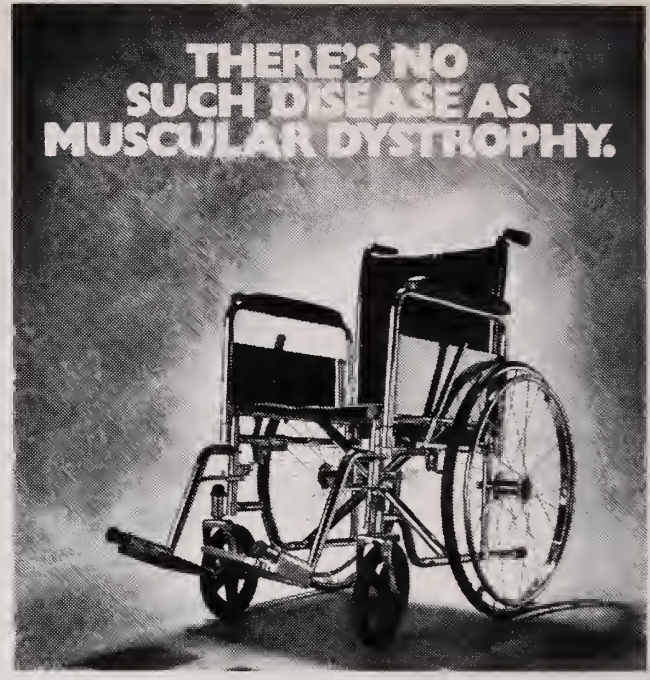

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MDA

Muscular Dystrophy Association
Jerry Lewis, National Chairman

New Members

■ **Malinda H. Bell, M.D.,** 2727 Main, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Bell received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City affiliated hospitals. She specializes in emergency medicine.

■ **Jana R. Brofman, D.O.,** Heartland Hospital, St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Brofman received her preliminary education at Baker University and her osteopathic degree at the Kansas City College of Osteopathic Medicine in 1978. She completed her residency training at the Philadelphia College of Osteopathic Medicine. She specializes in emergency medicine.

■ **Diana L. Casey, M.D.,** 2727 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Casey received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City affiliated hospitals. She specializes in internal medicine.

■ **Charles W. Craft, D.O.,** 106 W. 12th Street, Caruthersville 63830, has become a member of Pemiscot County Medical Society. Dr. Craft received his preliminary education at the Arkansas Tech University and his osteopathic degree at the Kirksville College of Osteopathic Medicine in 1978. He completed his residency training at the David Grant USAF Medical Center. He specializes in family practice.

■ **Marie A. Delcambre, M.D.,** Prime Health, 373 West 101st Terrace, Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Delcambre received her preliminary education at the University of Southwestern Louisiana and her medical degree at the Tulane University School of Medicine in 1980. She completed her residency training at the New England Deaconess Hospital. She specializes in internal medicine.

■ **Michael D. Dunlap, M.D.,** Heartland East Hospital, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Dunlap received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1979. He completed his residency training in St. Joseph Medical Center, Wichita, Kansas. He specializes in emergency medicine.

■ **Bruce S. Frank, M.D.,** 4129 Mexico Road, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Frank received his preliminary education at Massachusetts Institute of Technology and his medical degree at the Washington University in 1976. He completed his residency training at New England Medical Center. He specializes in ophthalmology.

■ **Danny M. Gurba, M.D.,** 4320 Wornall Road, Suite 610, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Gurba received his preliminary education at Kansas University and his medical degree at Kansas University in 1979. He completed his residency training at the Truman Medical Center. He specializes in orthopedic surgery.

■ **Clarke T. Harding, M.D.,** 300 First Capitol, St. Charles, has become a member of St. Charles-Lincoln County Medical Society. Dr. Harding received his preliminary education at the Cornall University and his medical degree at the Temple University in 1956. He completed his residency training at Fitzsimmons General Hospital. He specializes in pathology.

■ **Lynn L. Kleopfer, M.D.,** Moberly Regional Medical Center, P. O. Box 3000, Moberly 65270, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Kleopfer received her preliminary education at University of Iowa and her medical degree at the University of Iowa in 1979. She completed her residency at the University of Missouri-Columbia. She specializes in pathology.

■ **John R. Martinez, M.D.,** 2727 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Martinez received his preliminary education at the Emporia State University and his medical degree at the University of Missouri-Kansas City in 1985. He completed his residency training at the University of Missouri-Kansas City affiliated hospitals. He specializes in internal medicine.

■ **Daniel M. Plautz, M.D.,** Fulton State Hospital, Fulton 65201, has become a member of the Callaway County Medical Society. Dr. Plautz received his preliminary education at Carthage College and his medical degree at the University of Missouri School of Medicine-Columbia in 1977. He completed his residency training at the Southern Illinois University. He specializes in general practice.

■ **Gary D. Vivian, M.D.,** 2745 West Clay, Suite K, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Vivian received his preliminary education at the Purdue University and his medical degree at the University of Missouri-Columbia in 1978. Dr. Vivian completed his residency training at the University of Texas. He specializes in obstetrics and gynecology.

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Marc Vanderslic

University of Missouri-Columbia

Lawrence E. Allen, III
Lisa E. Cerneka
Keith R. Chilton
Faye C. Cohen
J. Dewey Cooper
Mark R. Corkins
Thomas F. Essman
Robin A. Fields
David E. Gerdt
Stacey Grey
James L. Harwell
Curtis L. Hedberg
Kelly Hsu
Jeff Jenkins
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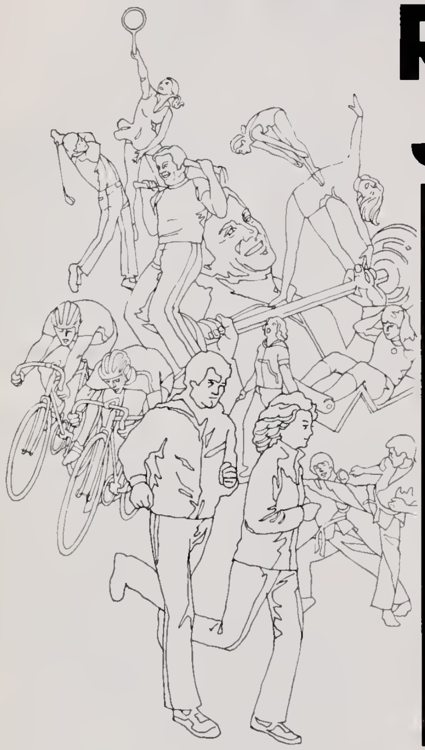

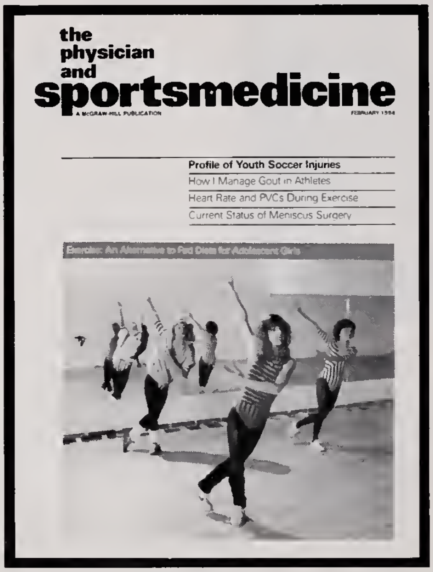

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MSMF Financial Report, *continued from pg. 178*

material in amount, are not reflected, the financial statements are not intended to present the overall financial position and results of operations in conformity with generally accepted accounting principles. However, the individual assets shown are presented in accordance with generally accepted accounting principles.

Loans receivable:

Loans receivable are stated at face amount with an allowance for doubtful accounts computed as 3 percent of the balance of the loans receivable at year end.

Tax status:

The Foundation is a not-for-profit organization exempt from federal income taxes under Internal Revenue Code Section 501(c)(3).

Note 2. *Loans Receivable*

The Foundation grants low interest loans in denomination of $2,000 per year for second year medical students. The following is a summary of the transactions affecting the loans receivable account for the year ended December 31, 1985:

Loans receivable at January 1, 1985	$1,209,199
Add loans advanced	216,500
Less principal repayments	(109,720)
Loans receivable at December 31, 1985	1,315,979
Allowance for doubtful accounts at January 1, 1985	37,152
Current year provision for doubtful accounts	2,327
Allowance for doubtful accounts at December 31, 1985	(39,479)
	$1,276,500

Note 3. *Related Party Transactions*

The Foundation assesses an annual fee to members of the Missouri State Medical Association. This fee is collected by the Missouri State Medical Association and is remitted to the Foundation. For the year ended December 31, 1985, the Foundation received $47,750 from the Missouri State Medical Association representing the 1985 fees. The Foundation is also assessed by the Missouri State Medical Association an annual fee for administrative cost. For the year ended December 31, 1985, the Foundation paid the Association $10,000 for administrative cost. The Foundation also reimburses the Missouri State Medical Association for expenses paid by the Association on behalf of the Foundation. These reimbursements for the year ended December 31, 1985 were $1,000 for professional fee and $4,116 for printing and meeting expenses.

Medical School News

St. Louis University

■ **Thomas C. Westfall, Ph.D.,** professor and chairman, department of pharmacology at St. Louis University of Medicine, has received two grants from the National Heart, Lung, and Blood Institute. The grant awards total $679,465 and will be used to conduct research which will attempt to determine the causes of hypertension.

With the first grant, which is a five-year continuation of a previous five-year grant, Dr. Westfall will study the association between hypertension and norepinephrine in the peripheral and central nervous system. He has discovered in previous research that this hormone is released in the spontaneously hypertensive rat, a genetic strain that develops hypertension at seven to 10 weeks of age.

With his second, three-year grant, Dr. Westfall will investigate whether neuropeptide-Y interacts with norepinephrine to produce an increase in blood pressure. Neuropeptide-Y is a substance that is formed together with norepinephrine in various neurons. Its function is unclear but it might be involved with adrenalin in stress, or "fight or flight," situations.

Dr. Westfall directs the School of Medicine's program in neuropharmacology, the study of the effects of drugs and disease on the nervous system. He joined St. Louis University School of Medicine in 1979 and was recognized as the Scholar of the Year for 1985 at St. Louis University School of Medicine when he received the Burlington Northern Foundation Award.

■ The Board of Trustees of the American Medical Association has appointed **Frances L. Horvath, M.D.,** dean, St. Louis University School of Allied Health Professions, to the Committee on Allied Health Education and Accreditation (CAHEA).

The 14-member committee acts upon the recommendations of 18 review committees and is responsible for the final accreditation decisions on more than 3,000 allied health educational programs in the country. It also maintains an active liaison with collaborating medical specialty societies and allied health organizations, maintains a liaison with other technical and professional groups related to medicine, and works with organizations to establish minimum standards for educational programs.

Dr. Horvath has been dean of the school of allied health professions since 1980. She received her medical degree in 1967 from St. Louis University School of Medicine.

University of Missouri-Kansas City

■ Effective January 20, Mr. **Donald R. Smithburg** was appointed acting assistant to the Dean/Administration at UMKC School of Medicine. Mr. Smithburg's duties include acting as the chief administrative officer on managerial and staff functions at the School of Medicine, and acting as liaison between the School and Truman Medical Center. Most recently, he was Assistant to the Chief Administrative Officer for the City of Albuquerque, New Mexico. He was awarded his Master of Arts in Public Administration from the University of New Mexico.

■ On February 14, visiting professor **Lee B. Sabath, M.D.,** made a presentation at UMKC School of Medicine as the second annual Mahvi Memorial Lecturer. Dr. Sabath, professor of Medicine with the University of Minnesota Hospitals in Minneapolis, spoke on "Methicillin-Resistant Staphylococci: Recognition, Epidemiology, and Treatment." The Mahvi lectureship was established in memory of **Thomas Mahvi, M.D.,** a pathologist and professor of Medicine at UMKC, who was killed in the collapse of the Hyatt Regency skywalks.

■ Two longtime employees were given new titles and revised responsibilities under a reorganization of the Dean's Office at the UMKC School of Medicine. **Roberta Epstein, Ph.D.,** was named Director of the Office of Medical Education and Research, and Ms. **Marilyn McGuyre** was named Director of the Office of Student Affairs. Ms. McGuyre has been with the University since 1970, joining the Office of Medical Education in 1973, being appointed associate director in 1978, and director in 1984. Dr. Epstein joined the School of Medicine in 1974, holding the position of docent team assistant for Year 1 and 2 students on Volker Campus since that time. She received her Ph.D. from UMKC's School of Education.

■ More than 200 people were invited to gather at the home of provost emeritus **E. Grey Dimond, M.D.,** February 8, for a reception honoring the School's Chinese students on the occasion of the Chinese New Year. Invited to the reception, sponsored by the Board of Directors of the Edgar Snow Memorial Fund, Inc., were all the deans and vice chancellors at UMKC, city officials, and local contributors to the fund. Journalist **Edgar Snow** acquired fame in China for his writings on the country.

■ Keith W. Ashcraft, M.D., was recently selected as president-elect of the Jackson County Medical Society. Dr. Ashcraft, a long-time clinical professor of Medicine at UMKC School of Medicine, is a specialist in Pediatric Surgery. He will assume the presidential office in 1987, following the term of **Dorothy D. Reister, M.D.**

■ **Glenn Eberhart, Ph.D.,** was honored at a recent farewell reception. Dr. Eberhart, who had served as assistant dean and chairman of the UMKC School of Medicine's Council on Evaluation since 1978, had been a Council member for 15 years. Dr. Eberhart, who had a joint appointment with the School of Pharmacy, returned full-time to the Pharmacy school to pursue his interests in research. He was succeeded by **Loretta Loftus, M.D.,** a docent and assistant professor of medicine (hematology-oncology). **Dean Harry S. Jonas, M.D.,** presented Dr. Eberhart with a chair, a pen set, and a certificate of appreciation for his many years of service on the Council.

■ The Urban League of Greater Kansas City recently presented **Donald H. Chisholm,** chairman of the Board of Directors of Truman Medical Center, with a plaque honoring TMC in its efforts in equal opportunity and affirmative action.

■ **David Yourtee, Ph.D.,** associate professor of pharmaceutical chemistry and medicine at UMKC, was selected this fall for the Fulbright Senior Scholar Program. The selection was made by the United States Information Agency and Board of Foreign Scholarships, and allows Dr. Yourtee to conduct research in Nigeria during the 1985-86 academic year. This is Dr. Yourtee's second Fulbright Scholarship, and it enables him to continue liver cancer research being conducted in Africa.

The University of Missouri-Columbia

- **Bernard D. Beitman, M.D.,** associate professor of psychiatry, recently was awarded a $33,980 grant from the Upjohn Company for a pilot study of Alprazolam in cardiology patients with panic disorder. **Dr. Imad M. Basha, M.D.,** fourth year resident physician in psychiatry, is the study's co-investigator.

- **Robert Blake, M.D.,** associate professor of family and community medicine, and **Sheldon Braun, M.D.,** associate professor of medicine, have been awarded a $149,983 grant from the Robert Wood Johnson Foundation for their "COPD Psychosocial Intervention Trial." The grant period is 1986-1989.

- **William Bradshaw, M.D.,** dean of the UMC School of Medicine, has been awarded a three-year, $138,485 grant from the U.S. Department of Health and Human Services for a geriatric education center. The center, a multicampus and multi-school project of the University of Missouri, addresses the need for more health professions faculty qualified to teach geriatrics and gerontology. It will provide geriatric education programs to medical faculty from institutions outside the Center and assistance in establishing geriatric curricula.

- **David Davis, M.D.,** professor and associate chair of the Department of Psychiatry, has been invited to organize a symposium, "Psychopathology of Personality Disorders: Changing Concepts," for the twenty-fifth anniversary meeting of the World Psychiatric Association, to be held August 19-22 in Copenhagen, Denmark. He also has been appointed to the program committee of the American Association for Social Psychiatry.

- **Armando R. Favazza, M.D.,** professor of psychiatry, has been awarded a $3,837 grant from the UMC School of Medicine Research Council to support a survey of self-mutilators.

- **Bruce E. Harry, M.D.,** assistant professor of psychiatry, has been awarded a $3,950 grant from the UMC School of Medicine Research Council for a pilot study of the psychiatric factors associated with the decision to grant or deny early release from prison.

- **H. D. Kim, Ph.D.,** professor and chair of the Department of Pharmacology, has received a three-year, $160,000 grant from the Edward Mallinckrodt, Jr. Foundation to study the movement of insulin in heart cells and the potential development of new drugs to reduce excessive risk of myocardial infarction in diabetics.

- **Shivendra D. Shukla, Ph.D.,** assistant professor of pharmacology, has received a three-year, $272,193 grant from the National Institutes of Health to support the study "PAF Stimulated Phosphoinositide Turnover in Platelets."

- **Bernard Singsen, M.D.,** professor of medicine, child health and pathology; was honored as the Fifth Annual Richard R. Kenney, D.O. Memorial Lecturer in a ceremony sponsored by the Kirksville Missouri College of Oseopathic Medicine. His lecture was entitled "Pediatric Arthritis: Strategies for Differential Diagnosis and Management."

Washington University

- Officials of Washington University and St. Louis Children's Hospital were notified recently that the St. Jude Children's Research Hospital Board of Governors has decided their institution should remain in Memphis, Tennessee. The decision was reached at the St. Jude Board of Governors meeting in Miami.

  For the past year, officials of both institutions have been discussing the feasibility of moving St. Jude's research operations to Washington University Medical Center in St. Louis. The principal reasons for considering this move were the opportunities that the institutions would have working together to create a research capability of size and critical mass to mount world-class scientific and patient care programs for the future.

  Washington University Chancellor, **William H. Danforth, M.D.,** commented, "Although we regret the decision, we believe the St. Jude Board members considered all the issues, negotiated with us in good faith, and reached their conclusion based on what they believe would be best for St. Jude."

  Virginia V. Weldon, M.D., Deputy Vice Chancellor for Medical Affairs added, "St. Jude is a great institution, performing superb research, and providing wonderful care for children. We would have welcomed them here, but respect their decision to remain in Memphis. We are certain that St. Jude will continue in its fine tradition and will contribute in the future to the betterment of the care of children with catastrophic diseases."

- **Thomas A. Woolsey, M.D.,** director of the James L. O'Leary Division of Experimental Neurology and Neurosurgery at Washington University School of Medicine, has received a $10,000 grant to help support his studies of brain function.

  The award comes from the Illinois-Eastern Iowa District of Kiwanis International Spastic Paralysis Research Foundation.

  Dr. Woolsey's work focuses on the organization, development and functional recovery of the brain, with emphasis on the long-term effects of stimulation and sensory deprivation upon the central nervous system. He will use the grant to further explore basic mechanisms and phenomena that might contribute to the treatment of spastic paralysis (cerebral palsy) and related disorders.

  Dr. Woolsey, who is the George H. and Ethel R. Bishop Scholar in Neuroscience in Neurology and Neurological Surgery, was named director of the O'Leary division in 1984. He is senior McDonnell neuroscientist, and a professor in three departments: neurology and neurosurgery, anatomy and neurobiology, and cell biology and physiology. He joined the faculty at Washington University in 1971.

- **U.S. Sen. Thomas F. Eagleton,** D-Mo., delivered the keynote speech Jan. 31 at ceremonies designating Washington University as an Alzheimer's Disease Research Center (ADRC). Washington University is one of ten institutions that received five-year funding from the National Institute on Aging (NIA) to study Alzheimer's Disease.

FINANCIAL STATEMENT FOR THE YEAR 1985

MISSOURI STATE MEDICAL ASSOCIATION

WILLIAMS-KEEPERS
Certified Public Accountants
Jefferson City, Missouri 65101

**To the Council of
the Missouri State Medical Association:**

We have examined the accompanying balance sheet of the Missouri State Medical Association as of December 31, 1985, and the related statements of revenues and expenses and changes in members' equity for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We did not examine the financial statements of Missouri Medical Insurance Company, an unconsolidated affiliate, the investment in which, as discussed in Note 5 of the Notes to Financial Statements, is accounted for by the equity method of accounting. The investment in Missouri Medical Insurance Company represents 19% of the assets as of December 31, 1985. The financial statements of Missouri Medical Insurance Company for 1984 (latest available report) were examined by other auditors whose reports have been furnished to us, and our opinion expressed herein, in so far as it relates to the amounts included for Missouri State Medical Association, is based solely on the reports of the other auditors.

The opinion of the other auditors, referred to in the preceding paragraph, was qualified subject to their inability to evaluate the reasonableness of the estimated reserve for losses and loss adjustment expenses due to the insufficient historical claims experience of the Missouri Medical Insurance Company. Additional losses ultimately realized, if any, will affect the carrying value of the Association's investment in the Missouri Medical Insurance Company.

In our opinion, based on our examinations and the reports of the other auditors referred to above, and subject to the effects, if any, or the financial statements of the ultimate resolution of the matter referred to in the preceding paragraph, the financial statements referred to in the first paragraph present fairly the financial position of Missouri State Medical Association as of December 31, 1985, and the results of their operation for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with the preceding year after giving retroactive effect to the changes with which we concur, in the method of accounting for leases as described in Note 10 of the Notes to Financial Statements.

The accompanying information shown on pages 12 to 13 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Our examination of the basic financial statements was made for the purpose of forming an opinion on those statements taken as a whole. The accompanying financial information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, the accompanying information is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Williams-Keepers

MISSOURI STATE MEDICAL ASSOCIATION
BALANCE SHEET
December 31, 1985

ASSETS

CURRENT ASSETS		
Cash and cash investments (Note 2)	$689,210	
Marketable equity securities (Note 3)	173,051	
Accounts receivable	11,579	
Travel advances	1,283	
Prepaid income tax	755	
Total current assets		$ 875,878
INVESTMENTS AND LONG-TERM RECEIVABLES		
Common stock of Missouri State Medical Insurance, Inc., a 100% owned unconsolidated subsidiary, at cost plus equity in undistributed net income (Note 4)	46,849	
Common stock of Missouri State Medical Insurance Company, a 10.8% owned affiliate, at cost plus equity in undistributed net income (Notes 5 and 9)	322,775	
Note receivable from affiliate (Note 6)	100,000	
Total investments and long-term receivables		469,624
PROPERTY AND EQUIPMENT, at cost (Note 1 and 7)		
Land	83,000	
Buildings	230,648	
Furniture and equipment	159,194	
	472,842	
Less accumulated depreciation	142,154	
Total property and equipment		330,688
		$1,676,190

The Notes to Financial Statements are an integral part of these statements.

LIABILITIES AND MEMBERS' EQUITY

CURRENT LIABILITIES		
Accounts payable and accrued expense	$ 7,518	
Due to the American Medical Association (AMA)	192,205	
Due to the Missouri State Medical Foundation	7,415	
Due to County Medical Societies	9,695	
Deferred revenue	120,725	
Liability under capital lease, current portion (Notes 7 and 10)	2,123	
Note payable, unsecured, 10.5% due January 5, 1986	100,000	
Total current liabilities		$ 439,681
LONG-TERM DEBT		
Liability under capital lease, non-current portion (Notes 7 and 10)	5,241	

Subordinated notes payable (Notes 8 and 9)	590,781	
Total long-term debt		596,022
MEMBERS' EQUITY (Notes 9 and 10)		640,487
		$1,676,190

MISSOURI STATE MEDICAL ASSOCIATION
STATEMENT OF REVENUES AND EXPENSES
Year Ended December 31, 1985

REVENUES		
Dues	$703,355	
Subscriptions	18,112	
Exhibit rentals	21,300	
Advertising	62,657	
Telenet system	10,571	
Commissions on collections	26,886	
Label sales	6,085	
Investment income including net gains on sales of investments	84,064	
Miscellaneous	2,297	
Administrative fees (Note 11)	16,766	
Total revenues		$952,093
EXPENSES		
Salaries and fringe benefits (Note 12)	378,387	
Office expense	84,299	
Interest expense	11,819	
Travel expense	11,769	
Commissions and committees expense	7,578	
Depreciation (Note 1)	33,100	
Womens Auxiliary	7,168	
Journal expense	126,009	
Meeting expense	178,471	
Public affairs	29,438	
Telenet system	15,206	
Consultant and professional fees	31,521	
Public relations program	15,368	
Student awards	400	
Miscellaneous	6,792	
Total expenses		937,325
Excess of revenues over expenses before equity in net income of investments		14,768
Equity in net income of Missouri State Medical Insurance, Inc. (Note 4)		98,248
Excess of revenues over expenses		$113,016

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL ASSOCIATION
STATEMENT OF CHANGES IN MEMBERS' EQUITY
Year Ended December 31, 1985

Members equity, beginning, as previously reported	$665,521
Adjustments applicable to prior years (Note 9)	(136,797)
Restatement to reflect change in accounting for leases (Note 10)	(1,253)
Members' equity, beginning as restated	527,471
Excess of revenues over expenses	113,016
Members' equity, ending	$640,487

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL ASSOCIATION
NOTES TO FINANCIAL STATEMENTS

Note 1. *Significant Accounting Policies*

Dues:

Dues are assessed to members on a calendar year basis. On December 31 of each year, members delinquent in payment of dues forfeit their memberships. The Association may also collect from members, dues and assessments of the American Medical Association and County Medical Societies, which are then forwarded to the respective organizations by the Association. The Association receives a fee for providing this service. Amounts received from members prior to January 1 of each year, which represents the subsequent years dues are recorded as deferred revenue.

Valuation of accounts receivable:

Accounts receivable are stated at face amount with no allowance for doubtful accounts. An allowance for doubtful accounts is not considered necessary because probable uncollectible accounts are immaterial.

Income taxes:

The Association is exempt from federal income taxes under the Internal Revenue Code Section 501(c)(6). Any unrelated business income is subject to federal income tax.

Property and equipment:

Property and equipment are carried at cost. Depreciation is computed by the straight-line method based on estimated useful lives of the related assets. Depreciation expense for the year ended December 31, 1985 was $33,100.

Note 2. *Cash and Cash Investments*

The balance of cash and cash investments at December 31, 1985 consisted of the following:

Petty cash	$ 50
Cash in bank, Executive Secretary Account	1,862
Cash in bank, Treasury Account	42,958
Money Market Fund	35,370
Certificates of deposit	608,970
	$689,210

Note 3. *Marketable Equity Securities*

Investments in marketable equity securities are carried at the lower of aggregate cost or market. At December 31, 1985, the Associations' portfolio of marketable equity securities had an aggregate cost of $173,051 and an aggregate market value of $185,248.

Note 4. *Investment in Unconsolidated Subsidiary*

At December 31, 1985, the Association's investment in Missouri State Medical Insurance, Inc., a 100% owned unconsolidated subsidiary, is carried at cost of $2,000 plus $44,849 equity in undistributed net earnings since date of acquisition.

Condensed financial data relating to the subsidiary follows:

For the Year Ended December 31, 1985

Net current assets	$35,864
Other assets (investment in common stock of Missouri Medical Insurance Company)	15,000
Less liabilities	(4,015)
Net assets	$46,849
Income	$158,952
Expenses	(9,341)
	149,611
Income taxes	(51,363)
Net income	$ 98,248

Note 5. *Investment in Affiliate*

The Association exercises significant management control over its affiliate, Missouri Medical Insurance Company (MOMEDICO), by virtue of its ownership of 60.6% of the voting rights of the Company. At December 31, 1984, the Association owned 10.8% of the outstanding common stock of its affiliate and the Association's investment in MOMEDICO is carried at cost of $383,091 plus $(60,316) equity in undistributed net earnings since date of acquisition.

Condensed financial data relating to the affiliate follows:

For the Year Ended December 31, 1984

Investments	$14,708,539
Other assets	988,417
Total assets	15,696,956
Reserve for losses and loss adjustment expenses	11,412,786
Other liabilities	2,789,798
Total liabilities	14,202,584
Revenues	5,874,413
Expenses	5,907,178
	(32,765)
Realized losses on investments	(37,831)
Net loss	$(70,596)

Note 6. *Note Receivable From Affiliate*

On July 10, 1985, the Association advanced $100,000 to its affiliate, Missouri Medical Insurance Company, (MOMEDICO) and received an unsecured convertible subordinated note in the principal sum of $100,000. The note bears simple interest at a rate of 10% per annum to be paid annually upon approval of the Missouri Division of Insurance.

Repayment of the note will be made in 1988 if MOMEDICO, as calculated at June 30, 1988 and in accordance with accounting principles prescribed or permitted by the Division of Insurance of the State of Missouri, has a minimum capital and surplus of $2,000,000. Principal payments on the outstanding notes will be made only to the extent that the capital and surplus exceeds the $2,000,000 minimum. At this time, the Association has the option of accepting one share of Class B, common stock for each $25 of principal and interest due and payable. However, MOMEDICO may decline such a conversion in the event that less than 100,000 shares are requested for conversion by note holders. Payments thereafter on nonconverted notes will only be to the extent that the capital and surplus of MOMEDICO, calculated as previously disclosed and at the end of each fiscal year, exceeds the $2,000,000 minimum.

Note 7. *Capital Lease*

The Association is currently leasing its telephone system under a lease/purchase agreement over a term of sixty months. The telephone system is included in property and equipment at a cost of $11,286 with a provision for accumulated depreciation at December 31, 1985 of $5,643. Depreciation recorded for the year ended December 31, 1985 was $2,257.

Future minimum lease payments were as follows at December 31, 1985:

Year ending December 31	
1986	$3,232
1987	3,232
1988	2,963
Total minimum lease payments	9,427
Less amount representing interest	(2,063)
	7,364
Less current maturities of obligation under capital lease	(2,123)
Long-term obligation under capital lease	$5,241

Note 8. *Subordinated Notes Payable*

In 1978, the Association formed a wholly owned subsidiary, Missouri Medical Insurance Company (MOMEDICO) to provide professional liability and premises liability insurance for physicians and support technicians practicing in the State of Missouri. Before obtaining professional liability insurance through MOMEDICO, physicians residing in the State of Missouri were required to subscribe to noninterest bearing subordinated notes based upon the physician's underwriting classification. These notes were issued by the Association and the subscriptions were payable over a three year period.

The Association was the sole stockholder of MOMEDICO prior to the public stock offering of MOMEDICO in 1980. At that time, the requirement to purchase subordinated notes was eliminated with new policies effective after January 31, 1980.

In connection with the public stock offering in 1980, MOMEDICO assumed, in exchange for 100,815 of the 125,000 shares of the Class B common stock the Association held in MOMEDICO, the face value of the subordinated notes issued and outstanding. MOMEDICO also assumed the balance of the installments receivable on the subordinated notes and a bank note payable from the Association. Under an exchange offer made by MOMEDICO, holders of the Association's subordinated notes could exchange fully paid notes for Class A common stock at the rate of $20 face value per share.

On October 15, 1980, the Association reassumed all notes not exchanged and also the installments receivable on the unexchanged notes as well as an amount equal to the installments receivable of the bank note payable.

The notes require repayment only upon the Association's accumulation of in excess of $3,000,000 of members' equity at the end of any calendar year, that the Association has sufficient funds and assets, exclusive of the amount subject to repayment, to permit it to carry on business, and that the repayment be approved by the Council of the Association. Interest may be paid on the notes, but it is at the discretion of the Council of the Association.

Redemption of the notes are provided for in the event of death, disability, retirement of the holder, or if the holder has moved both his person and his practice out of the State of Missouri. However, redemption for such causes may be delayed or refused if the Council determines the Association is not on a financially responsible basis to make such redemptions.

At December 31, 1985, the balance of the subordinated notes payable was $590,781. This amount reflects the face value of the notes reassumed by the Association on October 15, 1980, less the installments receivable on the outstanding notes, and less all redemptions made from 1981 through 1985.

Note 9. *Prior Period Adjustments*

Errors were discovered in the amounts reported as investment in affiliate investment in subsidiary and subordinated notes payable in the Association's 1984 financial statements. These financial statements reflect the corrections, the results of which decreased the investment in affiliate by $164,718 increased the investment in subsidiary by $2,996, decreased the subordinated notes payable by $24,925 and decreased the balance of members' equity at January 1, 1985 by $136,797.

Note 10. *Change in Accounting for Lease*

In 1985, the method of accounting for a lease was changed to comply with Financial Accounting Standards Board Statement No. 13. Under this statement leases which meet specific provisions are capitalized and the related depreciation and imputed interest are charged against revenue in lieu of lease rental expense. The lease/purchase agreement the Association has for its telephone system met the provisions, and these financial statements reflect the retroactive application of this accounting change as members' equity for the years prior to 1985 has been reduced by $1,253.

Note 11. *Related Party Transactions*

The Association provides administrative services to Missouri State Medical Insurance, Inc. (a wholly owned subsidiary) and Missouri State Medical Foundation (an affiliate). For providing these services, the Association receives an annual fee from each of the two organizations. In 1985, the administrative fee assessed Missouri State Medical Foundation was $10,000 and the administrative fee assessed Missouri State Medical Insurance, Inc. was $3,000.

The Association may also, at times, pay expense in behalf of its affiliate, the Missouri State Medical Foundation. These amounts are later reimbursed to the Association.

Note 12. *Pension Plan*

The Association has a non-contributory defined benefit pension plan covering substantially all of its employees. As of April 1, 1985, the Plan was fully funded with no unfunded accrued liability.

A comparison of the actuarial present value of accumulated plan benefits and net assets available for benefits for the plan year ended April 1, 1985 is as follows:

Actuarial present value of accumulated plan benefits:	
Vested	$138,529
Nonvested	367
Total	$138,896
Net assets available for benefits	$359,497

The total pension expense for year ended December 31, 1985 was $-0-.

MISSOURI STATE MEDICAL ASSOCIATION SCHEDULE OF SELECTED EXPENSES December 31, 1985

SALARIES AND FRINGE BENEFITS	
Salaries	$320,744
Payroll taxes	22,995
Employees life and disability insurance	12,199
Employees hospitalization insurance	22,449
Total salaries and fringe benefits	$378,387
OFFICE EXPENSES	
Occupancy expense	$ 14,401
Office supplies	13,661
Computer expense	12,613
Postage	20,045
Telephone	13,234
Insurance	3,994
Taxes, real estate	1,772
Custodian fees	571
Equipment rental and repair	1,792
Dues and directories	2,216
Total office expenses	$ 84,299
COMMISSIONS AND COMMITTEES EXPENSES	
Commissions:	
Commission on Medical Economics, Third Party Medicine and Governmental Relations	$2,268
Commission on Continuing Medical Education	820
Commission on Medical-Legal Affairs	362
Commission on Interspecialty Medicine	147
Total commissions expenses	3,597
Committees:	
Committee on Impaired Physicians	$ 3,575
Committee on Public Affairs	131
Action Committee to Negotiate with Third Party and Hospitals	275
Total committee expenses	3,981
Total commissions and committee expenses	$ 7,578
Meeting Expenses:	
Annual session	$ 61,511
Council	46,145
AMA delegate's expenses	53,371
Discretionary Council Fund	1,440
Tort reform	16,004
	$178,471

Missouri State Medical Association
Dues Receivable and Membership by Societies

MEMBERSHIP

Societies	*Students*	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
Andrew			2	1	3	$
Audrain			32	2	34	480.00
Barton			3	2	5	160.00
Boone		15	280	27	322	1,040.00
Buchanan			105	21	126	160.00
Butler-Wayne-Ripley-Carter			58	4	62	1,120.00
Callaway			9	4	13	160.00
Cape Girardeau			111	7	118	160.00
Chariton-Macon-Monroe-Randolph			20	8	28	480.00
Clay-Platte			131	9	140	480.00
Clinton			2	1	3	160.00
Cole			76	9	85	160.00
Cooper			6	1	7	
Dallas-Hickory-Polk-Dade			13	3	16	
Dunklin			18			640.00
Franklin-Gasconade-Warren			36	3	39	640.00
Grand River			25	4	29	320.00
Greene			357	36	393	
Henry			6	2	8	
Howard			6	2	8	
Jackson		68	980	223	1,271	1,810.00
Jasper			114	15	129	240.00
Jefferson			30		30	640.00
Johnson			11	3	14	320.00
Laclede			9	1	10	
Lafayette-Ray			26	2	28	
Lake of the Ozarks			16	2	18	320.00
Mid-Missouri			35	3	38	800.00
Mineral Area			39	6	45	320.00
Moniteau			2	1	3	
Montgomery			1		1	
Northeast			35	2	37	
Northwest			21	3	24	
North Central			2		2	
Ozarks			31	10	41	160.00
Pemiscot			8	1	9	
Perry-St. Genevieve			18	4	22	
Pettis			32	4	36	400.00
Pike			6		6	
St. Charles-Lincoln			77	4	81	640.00
St. Louis Metropolitan		78	1,969	325	2,372	6,240.00
Saline			11	2	13	160.00
SEMO			39	2	41	160.00
South Central			30	1	31	1,520.00
Tri Lakes			12	1	13	160.00
Webster			3		3	
West Central			29	3	32	800.00
St. Louis University	302				302	
University of Missouri-Columbia	277				277	
University of Missouri-Kansas	283				283	
Washington University	125				125	
Totals	987	161	4,882	764	6,794	$20,850.00

FINANCIAL STATEMENT FOR THE YEAR 1985
MISSOURI STATE MEDICAL FOUNDATION

WILLIAMS-KEEPERS

Certified Public Accountants
Jefferson City, Missouri 65101

To the Board of Directors of
Missouri State Medical Foundation

We have examined the accompanying statement of assets, liabilities and fund balance on a modified cash basis of Missouri State Medical Foundation as of December 31, 1985, and the related statement of revenues, expenses and changes in fund balance on a modified cash basis for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in Note 1 of the notes to financial statements, the accompanying statements are prepared on the modified cash basis of accounting and, accordingly, are not intended to be presented in conformity with generally accepted accounting principles.

In our opinion, the financial statements mentioned above present fairly the assets, liabilities and fund balance of the Missouri State Medical Foundation as of December 31, 1985, and its revenue, expenses and changes in fund balance for the year then ended, in conformity with the Foundation's modified cash basis accounting policy, as described in Note 1 of the notes to financial statements, applied on a basis consistent with the preceding year.

Williams-Keepers

MISSOURI STATE MEDICAL FOUNDATION
STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCE

(Modified Cash Basis)
December 31, 1985

ASSETS		
Cash	$ 245,947	
Loans receivable, less allowance for doubtful accounts of $39,479 (Note 2)	1,276,500	
		$1,522,447
FUND BALANCE		$1,522,447

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL FOUNDATION
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND BALANCE

(Modified Cash Basis)
Year Ended December 31, 1985

REVENUES		
Interest on student loans	$74,506	
Interest on cash investments	19,828	
Contributions	7,326	
Assessment of Missouri State Medical Association's Members (Note 3)	47,750	
Total revenues		$ 149,410
EXPENSES		
Administrative (Note 3)	11,233	
Professional (Note 3)	1,000	
Printing and meeting expense (Note 3)	4,116	
Provision for loan losses (Note 2)	2,327	
Total expenses		18,676
Excess revenues		130,734
Fund balance, beginning		1,391,713
Fund balance, ending		$1,522,447

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL FOUNDATION
NOTES TO FINANCIAL STATEMENTS

Note 1. *Significant Accounting Policies*

Method of accounting:

The accounts are maintained and these statements are presented, on a modified cash basis under which, except for the recognition of the assets and liabilities shown on the statement of assets, liabilities and fund balance on a modified cash basis, only cash receipts and disbursements are recorded and reflected in these statements. Since accrued interest on loans receivable and receivables which may be

Continued on page 172

Classifieds

CLASSIFIED ADVERTISING INFORMATION

Rates: $15 per insertion for 50 words or less for members and $25 per insertion for 50 words or less for nonmembers, with an additional 25¢ per word in excess of 50.

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Word Count: Count as one word all single words, two initials of a name, each abbreviation, isolated numbers, groups of numbers, hyphenated words. Count file numbers as five words.

File Numbers — Advertisers using file numbers forbid disclosure of their identity. Written inquiries are forwarded to such advertisers. To assure prompt delivery when replying to an advertisement with a Journal file number, address letters as follows: File (insert number), c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, Mo. 65102.

All advertisements are subject to approval by the Editorial Board prior to acceptance.

Physicians Wanted

GASTROENTEROLOGIST NEEDED — to join 15 M.D. multi-specialty group. Competitive salary with all fringes. Early participation in unique production based compensation program. Send C.V. reply to The Hannibal Clinic, 711 Grand, Hannibal, MO 63401, Attention: Dick Motley, clinic manager; or call 314/221-5250.

PRIMARY CARE PHYSICIANS — Comprehensive changes in the St. Louis County Health Department have created a variety of part-time and full-time opportunities for primary care physicians. Physicians board-certified or board eligible in family practice, internal medicine, pediatrics or OB/GYN are needed to staff positions. Competitive salaries and fringe benefits are available. For consideration, please send resume to: Chief Medical Officer, 801 South Brentwood Blvd., Clayton, MO 63105.

HEALTHLINE PHYSICIAN SERVICES — an affiliate of St. Louis University Medical Center, has part-time and full-time opportunities available for physicians in emergency departments, clinics and locum tenens work. Healthline offers excellent compensation, flexible schedules, administrative opportunities and benefits, no "on-call" responsibilities and a challenging medical environment. If you are just starting out, looking for a career change, or want to supplement your income from another source, please contact Barry Trautman at Healthline Physician Services, 8401 Hanley Industrial Ct., St. Louis 63144. 314-962-1233.

EMERGENCY MEDICINE — Full and part-time positions available in emergency departments and clinics for qualified physicians seeking lucrative employment opportunities. Outstanding remuneration and comprehensive malpractice insurance provided. For further information contact: Allison Katz, Staffing Specialist, National Emergency Services, Inc., 1 Hollow Lane, Suite 304, Lake Success, New York 11042. Or call 1-800-645-4848.

ENT NEEDED — to join 15 M.D. multispecialty group. Competitive salary with all fringes. Early participation in unique production based compensation program. Send C.V. reply to The Hannibal Clinic, 711 Grand, Hannibal, MO 63401, Attention: Dick Motley, clinic manager; or call 314/221-5250.

STAFF PSYCHIATRISTS — Needed for inpatient units in rural community within one hour drive of St. Louis. Excellent school system and community in which to raise children. Qualifications: Board certified or eligible; current Missouri license or eligibility to obtain MO license. Currently have 350-bed hospital, with approved funding for new 170-bed inpatient hospital, 90-bed forensic facility, and 200-bed mental health program in corrections. Salary: $59,410, plus $8-10,000/year for on-call (3-4 days/month); board certification differential; malpractice, health insurance; tax deferred comp.; retirement benefits; life insurance; 3 weeks vacation; 3 weeks sick leave; 10 days CME. Reimbursement for interview/moving expenses upon employment. Call or write Chief of Medical Staff, Farmington State Hospital, Farmington, MO 63640. 314/756-6792 ext. 347.

PEDIATRICIAN WANTED — Full-time position available with 21-doctor multispecialty group. Suburban area (28,000 population) in central Oklahoma. Located 30 miles from Oklahoma City. Above average benefits and earnings. Adjacent to 140-bed hospital. Send C.V. to William J. Birney, P.O. Box 849, Shawnee, Okla. 74801.

PEDIATRICIAN NEEDED — Board eligible or Board certified. To fill full-time position with established medical group of three physicians in the St. Louis area. Please send C.V. to File 502, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

PEDIATRICIAN — B.E./B.C. for very progressive town and community. Outstanding JCAH 50-bed acute care hospital in southeast Missouri. No other pediatrician in county of 30,000. Excellent opportunity. New nine office doctors park complex recently opened next to hospital. Contact Nolan O. England, Administrator, Dexter Memorial Hospital, P.O. Box 279, Dexter, MO 63841. 314/624-5566.

GENERAL SURGEON — B.E./B.C. needed immediately to join another surgeon in a busy practice. Excellent opportunity. Progressive rural community. Very modern 50-bed JCAH hospital in southeast Missouri. Contact Nolan O. England, Administrator, Dexter Memorial Hospital, P.O. Box 279, Dexter, MO 63841. 314/624-5566.

INTERNIST NEEDED — B.E./B.C. with interest in cardiology. No other internist in county of 30,000. Very progressive 50-bed acute care JCAH hospital. Excellent opportunity. New nine office doctors park just opened next to hospital. Contact Nolan O. England, Administrator, Dexter Memorial Hospital, P.O. Box 279, Dexter, MO 63841. 314/624-5566.

GENERAL JOHN J. PERSHING MEMORIAL HOSPITAL — in pleasant Brookfield (Linn County) Missouri, is seeking physicians with interests in family practice, general surgery, OB/GYN, and orthopedic surgery to establish practice in Brookfield (service area approximately 20,000 people). Association with other family practice physicians possible. Excellent opportunity. Incentives negotiable. Please call or write Don Sipes, Administrator, 130 E. Lockling Ave., Brookfield 64628. 816/258-2222.

Practices For Sale

PSYCHIATRIC PRACTICE FOR SALE — South St. Louis. Long-established. Good cash flow. Excellent financing arrangement available. Will introduce. Write CA File 503, c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

PSYCHIATRIC PRACTICE FOR SALE — in Joplin, Missouri. Established 14 years. Average gross $193,584.08. Average Net $152,667.56. 425 active charts. Write to CA File 501, c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

PRACTICE FOR SALE — Busy, established internal medicine/primary care practice located in southwest Missouri, in the heart of beautiful Ozark country. Small town with trade area of 20,000 population. Excellent outdoor. Across from newly-built hospital. Gross over $170,000. Low overhead. Hospital coverage with four other physicians. Will introduce, call 417/847-3725 evenings.

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Through its Committee on Impaired Physician, MSMA helps doctors who are suffering from alcoholism, other drug addiction, psychiatric disorders, or senility. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

Help Us To Help

Call the Physicians' Confidential 24-Hour Line (314-636-5744). Only specially trained personnel will answer or return your call.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

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This Date in Medical History MARCH

Compiled by Pasquale Accardo, M.D.
St. Louis

3

1824 French surgeon Jean Civiale completes the first lithotrity (breaking up a bladder stone in situ).

6

1900 The first United States bubonic plague epidemic begins in San Francisco.

1971 Herbert McLean Evans, American investigator. He discovered vitamin E and isolated pituitary growth hormone.

7

1792 Sir Thomas Watson, English physician, was born. In 1843 he suggested the use of rubber gloves in surgery.

8

1666, 1709 William Cowper, English surgeon and anatomist, was born and died on Thursday. He wrote a classic description of aortic insufficiency and the glands of the membranous urethra are named for him. His *Anatomy of Human Bodies* (1698) contained mostly plagiarized drawings from Govert Bidloo.

9

1907 The Indiana legislature passes the first eugenic sterilization law in the United States.

10

1980 Millionaire Scarsdale Diet doctor Herman Tarnover is shot to death by his former mistress and headmistress of an exclusive girls school, Jean Harris. She was found guilty of second degree murder on February 24, 1981.

1628 Marcello Malpighi, Italian anatomist and microscopist was born. He made many contributions to embryology, botany and entomology, discovered erythrocytes and the capillary circulation. He is remembered in many anatomical eponyms. Opposition by the Galenists was so heated that in 1689 he was assaulted by two masked university colleagues.

11

1913 John Shaw Billings, American surgeon and librarian, died. He designed the Johns Hopkins Hospital and with R. Fletcher founded the Index Medicus. "The education of the doctor which goes on after he has his degree is, after all, the most important part of his education." "A hospital is a living organism."

15

44 B.C. The Roman physician Antistus examines the body of Julius Caesar and concludes that of the 23 stab wounds only the wound in the chest was mortal.

20

1346 Venice forms a Council of Three to segregate shipping suspected of harboring infection. The physician and historian, Simon de Covina, is a prime mover in setting up what is first a thirty day (trentina) isolation, but soon is changed to a forty day period (or quarantino) because this was the period that both Moses and Christ spent in the desert.

21

1935 The first run of an incubator ambulance service for prematures in Chicago.

1850 Doctor Oliver Wendell Holmes, Parkman Professor of Anatomy at Harvard Medical School, testifies on the possible identity of the professionally dismembered remains of Dr. George Parkman (his professorship was named after the victim) who was murdered by Dr. John Webster, Professor of Chemistry and Mineralogy at Harvard, in an argument over money.

22

1800 The Royal College of Surgeons is established. The *Lancet* would later describe this body as "this sink of infamy and corruption, this receptacle of all that is avaricious, base, worthless, and detestable in the surgical profession."

23

1930 The Russian surgeon Sergei Yudin performs the first transfusion of cadaver blood into a human.

29

1886 Dr. John Pemberton, a chemist of Atlanta, Georgia, launches an "Esteemed Brain Tonic and Intellectual Beverage, a cure for all nervous affections, sick headache, neuralgia, hysteria and melancholy." Dr. Pemberton was proprietor of the Triplex Liver Pills and Globe of Flower Cough Syrup Company. His new product contained cocaine, caffeine and kola nut extract; it continued to include cocaine until 1903 when that ingredient was removed for racial reasons, but it was still called "dope" for many years to come. The name of this elixir is Coca-Cola.

30

1842 Dr. Crawford W. Long (1815-1878), a simple and modest country practitioner, "discoverer of the use of sulphuric ether as an anesthetic in surgery on March 30, 1842 at Jefferson, Jackson County, Georgia," uses his discovery for the first time in an operation on his friend James M. Venable. He does not publish his results until 1849; Morton's "Letheon" comes out in 1846.

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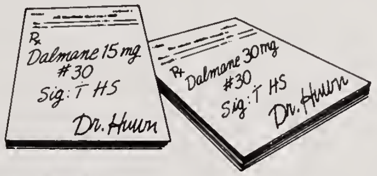
References: **1.** Kales J, *et al. Clin Pharmacol Ther 12* 691-697, Jul-Aug 1971. **2.** Kales A, *et al: Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al. Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Dement WC, *et al: Behav Med*, pp. 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al:* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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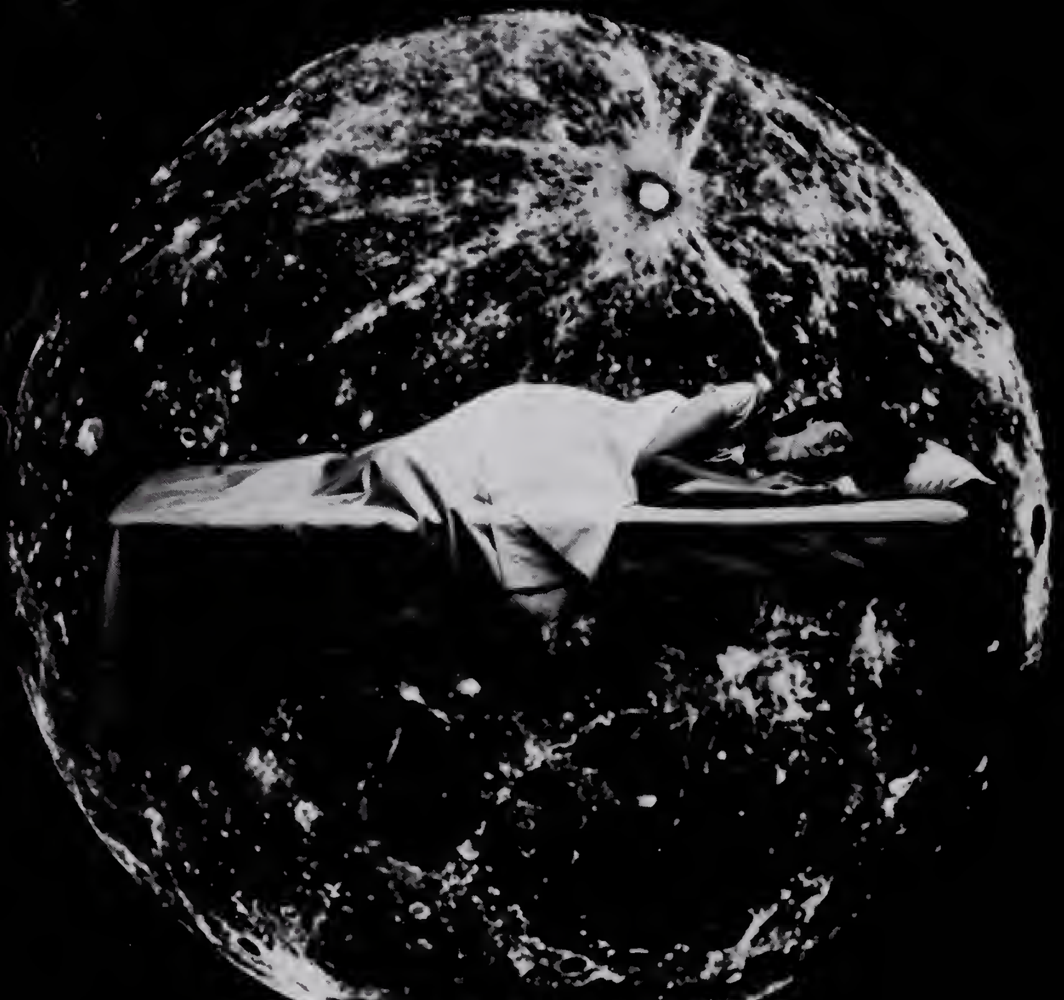

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Missouri Medicine

ournal of the Missouri State Medical Association
April 1986

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F. Gehlerman

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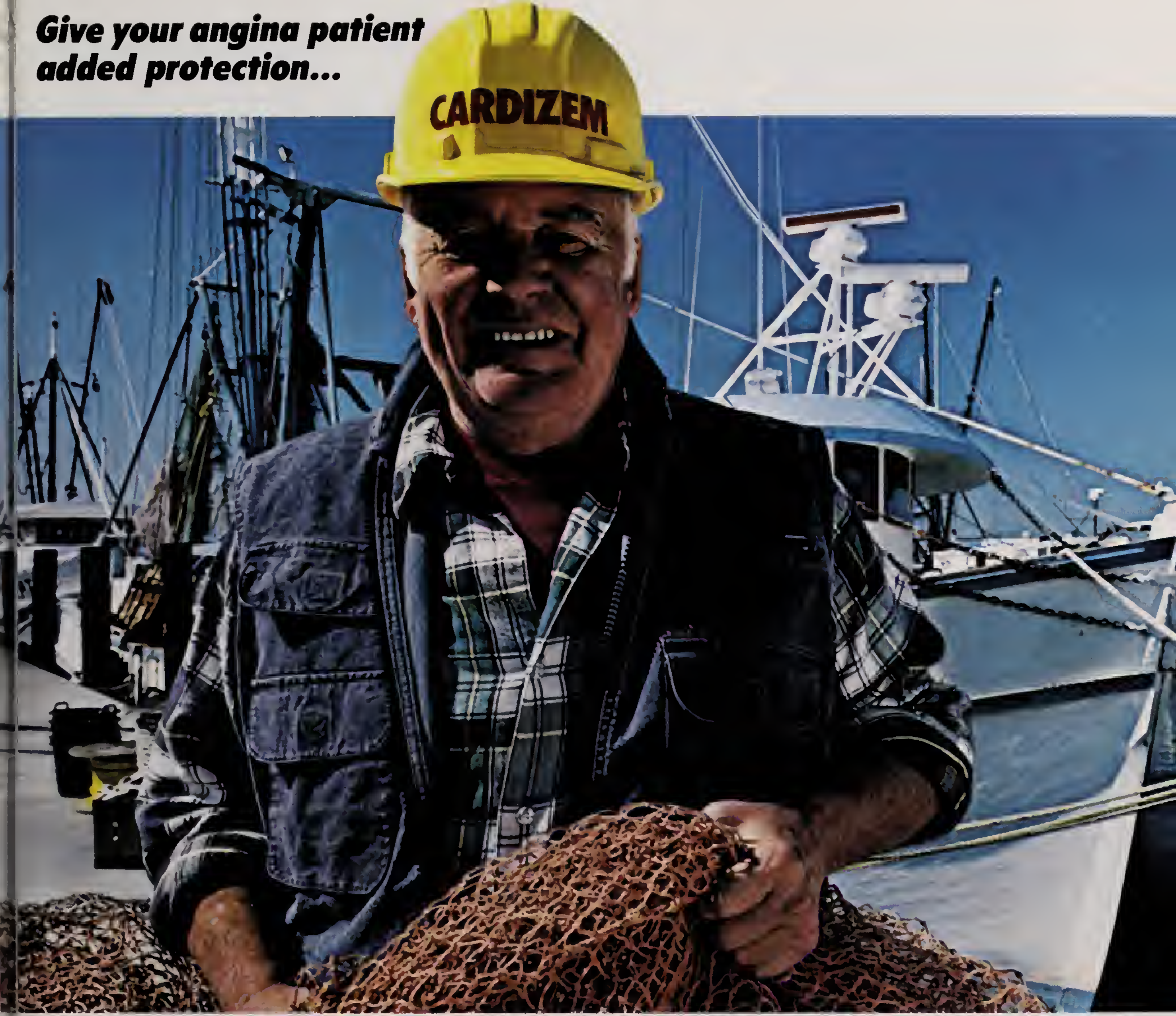

CARDIZEM®: FEWER SIDE EFFECTS

diltiazem HCl/Marion

- **The lowest incidence of side effects among the calcium channel blockers[1]**
- **An exceptionally safe choice for angina patients with coexisting hypertension, diabetes, asthma, or COPD[1-3]**
- **Proven efficacy when used alone in angina[1,4-6]**
- **Compatible with both beta-blockers and nitrates[7]**

Please see brief summary of prescribing information on the next page.

CARDIZEM® 60 mg tid or qid

diltiazem HCl/Marion

FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

BRIEF SUMMARY

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm**. CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina)**. CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension**. Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury**. In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are edema (2.4%), headache (2 1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope
Nervous System.	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity
Other.	Polyuria, nocturia

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered

Bradycardia	Administer atropine (0 60 to 1 0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely co-administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84

See complete Professional Use Information before prescribing

D642T5

References: 1. *Physicians' Desk Reference*®, ed 39. Oradell, NJ, Medical Economics Company Inc, 1985. 2. Cohn PF, Braunwald E Chronic ischemic heart disease, in Braunwald E (ed): *Heart Disease. A Textbook of Cardiovascular Medicine*, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. 3. Schroeder JS. Calcium and beta blockers in ischemic heart disease: When to use which. *Mod Med* 1982; 50(Sept):94-116 4. Subramanian VB Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina *Cardiovasc Rev Rep* 1984, 5 91-104 5. Schroeder JS, Feldman RL, Giles TD, et al Multiclinic controlled trial of diltiazem for Prinzmetal's angina *Am J Med* 1982; 72:227-231. 6. Weiner DA, McCabe CH, Cutler SS, et al The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7.648-653. 7. Shapiro W. Calcium channel blockers Actions on the heart and uses in ischemic heart disease *Consultant* 1984, 24(Dec) 150-159

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Missouri Medicine

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Cover

"Missouri Barn," watercolor by Florence Guhleman, *Jefferson City*. Mrs. Guhleman, a well-known Missouri artist, is the wife of Henry V. Guhleman, II, M.D., a retired Jefferson City psychiatrist.

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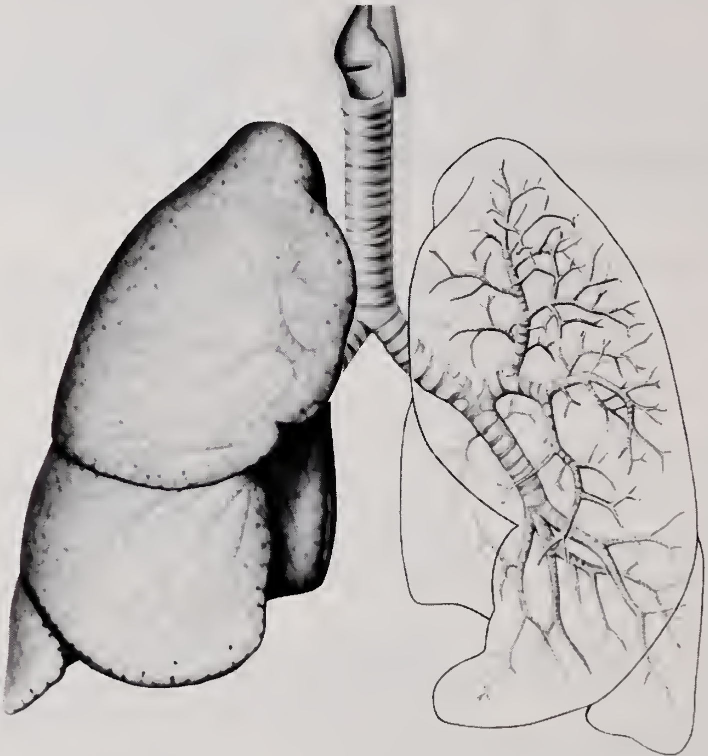
Consider the causative organisms...



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Brief Summary **Consult the package literature for prescribing information**

Indications and Usage Ceclor® (cefaclor Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections including the prophylaxis of rheumatic fever See prescribing information

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H. Peter Ekern, M.D., takes over helm at MSMA Convention

H. Peter Ekern, M.D., Mexico, was installed Saturday, April 5, as the 1986-1987 president of the Missouri State Medical Association. Dr. Ekern succeeds Walter A. German, M.D., of Springfield as head of this 6,800-member organization.

The installation ceremony was conducted during the MSMA's 128th Annual Convention, April 3-6, at the St. Louis Marriott Pavilion Hotel.

Dr. Ekern is a family practitioner in Mexico, Missouri, where he was born and raised. He completed his undergraduate training in chemistry at the University of Missouri-Columbia. He received his M.D. degree in 1959 from the University of Missouri-Columbia School of Medicine. He is the first MSMA president to have graduated from the four-year medical school at the University.

The new president completed an internship at the University of Alabama Medical Center, Birmingham, and served his residency at the University of Missouri Medical Center in Columbia. From 1962 to 1964, Dr. Ekern served as a captain in the United States Air Force Medical Corps.

In addition to the MSMA, Dr. Ekern is an active member of the Rotary Club, the Mexico Chamber of Commerce, the Missouri Academy of Family Physicians, the American Academy of Family Physicians, and is a past president of the Audrain County Medical Society. He is a diplomate of the American Board of Family Practice.

In his community, Dr. Ekern is active as a deacon and elder in the First Presbyterian Church, Mexico, and is a 4-H Project Leader. He is team physician to the Mexico High School football team and serves on the advisory board to the local Vocational-Technical School. He is also physician to the students at the Mexico Military Academy.

The father of four children, he is married to the former Nancy Jane Anderson. ■

Key medical issues still to be debated by General Assembly

As MISSOURI MEDICINE goes to press, several key issues effecting medicine are expected to be debated during the final few weeks of the General Assembly which adjourns at midnight, April 30.

Legislators are expecting to be lobbied harder than ever on House Bill 1333 and Senate Bill 588, the optometric therapeutic drug bills. Many legislators still need to be convinced that these bills present a danger to the health of Missourians by allowing non-physicians to practice medicine. If you have not yet written or called your legislators, please do so today. HB 1333 is now on the House Perfection Calendar. SB 588 is still in committee.

House Bill 1260, which would mandate mental illness benefits in insurance plans, is two bills down on the House Perfection Calendar at the time of this writing.

Several licensure bills have also been reported for floor action. SB 636 which would license dietitians, was eight bills down on the Senate calendar as the General Assembly returned from Spring Break. SB 533, which would license social workers, is on the Informal Calendar and could be considered at any time.

Two other licensure bills, SB 540 (physician assistants) and SB 627 (occupational therapists) recently were reported Do Pass, but are still rather far down on the Calendar.

Some MSMA members have questioned the Association's stand on HB 1219 and SB 582, which would eliminate the requirement that physical therapists work under a physician's prescription.

These bills would allow PTs to see patients without referral. In other words, a patient suffering pain could go directly to a PT for diagnosis and treatment, and if the PT felt it necessary, the PT could refer the patient to a physician.

This is the exact opposite of today's law where a patient must be seen by a physician, have the problem diagnosed and, if needed, referred to a PT. The MSMA does not believe PTs have the education or training to diagnose all causes of pain and then determine if a patient needs to see a physician.

House Bill 1415, which would license lay midwives in Missouri, recently was defeated by the House of Representatives. The

(Continued)

House had perfected (given first-round approval) the day before and had placed it in a position for House passage. However, the bill was defeated the next day. Prior to the vote, several representatives said they had not been contacted by physicians with opposition to the bill. Meanwhile, three Missouri doctors wrote letters to the entire membership of the House expressing support for the bill.

Although the issue of lay midwifery is dead for this Session of the General Assembly, it will be back next year. ■

MISSOURI MEDICINE wins special award in medical journalism

Sandoz Pharmaceutical has announced MISSOURI MEDICINE as recipient of the Special Award in the State Medical Journal category of the 11th Annual Sandoz Medical Journalism Awards competition.

The award recognizes MISSOURI MEDICINE as a "publication with outstanding design and editorial features." The award was to be presented to Jordan W. Burkey, M.D., editor, and the Editorial Board and Publications Committee during the MSMA Annual Convention in St. Louis.

First place award in the state medical journal category went to the *California Physician*. Other special awards recognized the *New York Journal of Medicine* and the *Western Journal of Medicine*. Honorable mentions went to *Texas Medicine* and the *Wisconsin Medical Journal*.

In critiquing MISSOURI MEDICINE, Paul Fisher, well-known and respected journalism professor at the University of Missouri-Columbia School of Journalism, remarked, "The important observation is that if we had in this contest an award for the most improved publication, graphically, I imagine MISSOURI MEDICINE would be the winner because very clearly there has been a continuing improvement with this publication." ■

"Asleep at the Wheel" Scam Nets Desoxyn

The old narcolepsy scam is still with us and appears to be gaining in popularity due to the dramatic decrease in the prescribing and dispensing of amphetamines for weight control by Missouri physicians (due to the directive from the Board of Healing Arts). Now, with weight control being a very limited source of "speed" for "professional patients" these people are feigning hyperactive or narcoleptic symptoms. It is difficult for most persons over 17 years of age to be hyperactive, so faking narcolepsy is the ruse in vogue.

Investigations in all parts of Missouri have revealed that there are several "professional patients" traveling statewide on a regular schedule and seeing the same group of doctors month after month. One such individual would present himself to each physician with a very convincing story and could actually fall asleep while talking to the doctor. He had read all of the medical journal articles dealing with narcolepsy and sounded very convincing. This individual specialized in Desoxyn.

Another professional patient gives each physician a local address and usually tells the story that he is in the middle of a divorce and is traveling back and forth to Colorado where he hopes to find employment. In Kansas City and St. Louis he tells physicians he is employed at either General Motors Assembly Plant or the Fort Motor Company Plant. This individual specializes in Ritalin.

He also has documents from a hospital in Oklahoma City indicating he was diagnosed as a narcoleptic and has seen a number of physicians who have verified this condition. Physicians who became suspicious of this individual quickly found out that the medical records were fake. When checking with the hospital, many of the doctors who allegedly confirmed the narcolepsy were found not to exist.

The importance of making your own diagnosis and verifying any medical records with the doctor or hospital cannot be overstressed. Likewise, knowing the correct identity of your patient and the correct address helps to prevent the diversion of Controlled Drugs to illicit channels. ■

Three Missouri MDs seek positions of AMA leadership

At the AMA Annual Meeting in June of this year, the names of three members of the Missouri State Medical Association will be on the ballot for 1986-87 slots with the American Medical Association.

Hubert A. Ritter, M.D., a St. Louis obstetrician/gynecologist, is seeking the position of AMA president-elect. Dr. Ritter served as a member of the AMA Board of Trustees from 1976 to 1985.

George M. Bohigian, M.D., a St. Louis ophthalmologist, is running for re-election for a second term on the AMA Council on Scientific Affairs. Dr. Bohigian has been an AMA delegate from Missouri since 1980.

Hugh E. Stephenson, M.D., a Columbia surgeon, is running for a slot on the AMA Council on Continuing Medical Education. Dr. Stephenson, an AMA delegate since 1964, is currently serving his third term as chief of staff at the University of Missouri-Columbia Hospitals and Clinics. ■

Letters to the Editor

No free lunches for non-members

Dear Dr. Burkey,

I recently received your letter thanking me for my continued support of the MSMA and the AMA. I think belonging to the AMA and to the MSMA is an honor and I will continue to support these organizations.

However, I do realize that a large segment of the physicians do not belong to the AMA or MSMA. I think we should continue to encourage them to join, but if they do not, it is far time that we stop offering to them any benefits or other things that are offered by the MSMA, even if we increase their cost. In brief, if they do not want to belong to the Association and pay their fair share, then they are out entirely.

Sincerely,
Richard J. Hollocher, M.D.
St. Louis

Physicians must push together behind AMA

Dear Dr. Burkey,

In the event that members of the MSMA should feel that Dr. Robert E. Kuhlman represents the opinion of all orthopedists in his letter to the editor published in the February, 1986 edition of *Missouri Medicine,* I would like to express my opinion on the matter. Had Dr. Kuhlman followed closely the activities of the House of Delegates of the MSMA over the past few years he would know that the question of unified membership has been raised on numerous occasions. The MSMA House of Delegates voted at its annual session in 1985 to recommend unified membership. It is to be one of the first orders of business at the 1986 annual meeting.

If Dr. Kuhlman or other members of the MSMA feel that the AMA has had poor leadership over the past ten years, then they are indeed out of step with what is going on in American medicine. For example, if Joe Boyle represents poor leadership, then I would certainly like to have someone give me a demonstration of good leadership. As pointed out in the accompanying article by Dr. Byrum, only 44% of the physicians in this country are members of AMA. I am proud to inform Dr. Kuhlman that nearly 70% of the members of the American Academy of Orthopedic Surgeons are members of the AMA. In a recent article, which I co-authored for the Bulletin of the American Academy of Orthopedic Surgeons, the Orthopedic Section Council pointed out to our membership the many benefits of becoming a member of the AMA, and we are hoping to expand that membership beyond the 70%.

Several years ago it became obvious to the AMA that they did not have the base to provide continuing medical education for all the specialties so they gave up the continuing medical education to the specialty societies. They have continued to supervise and correlate the ongoing education not only of undergraduates but, also, postgraduates and the ongoing, continuing medical education functions.

While the AMA, the American College of Surgeons and the American Academy of Orthopedic Surgeons, as well as other specialty societies, have not always agreed on all aspects of interest to American medicine, they, nevertheless, have continued to cooperate on most of the major issues. Anyone who feels that the AMA has failed to represent the physicians in Congress has obviously not talked to their local legislator recently. Anyone who feels that the legal department of the AMA has not aggressively fought the "unconstitutional legislation and attempts to legislate doctors' fees" has certainly not been aware of what has gone on in the courts and in the legislatures. If you don't think the AMA has done much in the state of Massachusetts, then you should talk to the physicians in Massachusetts. Suits have been filed in numerous areas. Perhaps, if the AMA spoke for 100% of the physicians rather than 44%, some of those suits might have better outcomes. We certainly don't win all of the suits, but at least we try to fight them.

The time has come in medicine that we must have a unified voice to speak for the physicians of the United States. The AMA must be the umbrella organization. The AAOS may speak for orthopedists; the ACS may speak for surgeons; the internists' group may speak for internists, but the AMA must speak for *physicians.* No one seems to gripe when, if they become a member of their local society, they must also be a member of MSMA. Why then should they gripe if they must also be a member of the AMA? Yes, it's going to cost a little more money; but, if we were all members of the AMA as well as MSMA and the local county society, I believe it is entirely reasonable that dues overall would drop considerably. It's time to stop the divisiveness,

■ Letters, *continued*

the petty haranguing and the narrowminded attitudes and put our shoulders squarely behind the wheel and push together. That wheel must be the AMA.

Having served as the alternate delegate for two years and the delegate for three years from the American Academy of Orthopedic Surgeons to the House of Delegates of the AMA, I feel that I speak with some experience.

Sincerely yours,
William J. Medlicott, M.D.
Kansas City

MSMA will lose this member if it unifies with AMA

Dear Dr. Burkey,

I read with interest the *"In My Opinion"* article Fritz Byrum, M.D., wrote (*Missouri Medicine*, February 1986, "The Case Against Unified Membership.") and I am also against requiring membership in AMA. I will drop my Missouri State Medical Association membership if membership in AMA is required.

Very sincerely yours,
Samuel E. Logan, M.D., Ph.D.
St. Louis

MDs have a choice in U.S. Senate race

Dear Dr. Burkey,

There is a political movement developing in St. Louis that should be of interest to Missouri physicians. Richard J. Gimpelson, M.D., an OB/GYN in St. Louis County, is challenging Kit Bond, former governor and lawyer from Kansas City, for the Republican nomination for United States Senate in 1986.

Dr. Gimpelson filed on January 14, 1986, and will appear first on the August 5th primary ballot. Dr. Gimpelson hopes to force the health care issue and force the other candidates to address the country's need for product liability, and tort and court reform. It's time to take the fight to those who determine the laws. For too long, physicians have avoided the political arena; we cannot stay on the sidelines any longer.

Political analysts pretty much agree that the U.S. Senate race in Missouri is the one to watch this year as the outcome may well determine which party controls the United States Senate. Wouldn't it be nice if Missouri physicians assumed the leadership role and forced these issues of reform out into the open? The physician block of voters, if effectively mobilized, could play a pivotal role as to the makeup if the U.S. Senate in 1986. Richard Gimpelson is doing his part toward physicians' making a real impact upon this year's U.S. Senate race in Missouri.

I urge all physicians to get involved. It is imperative that other physicians do all they can to help the campaign. Like the passing of Halley's Comet, there may not be such a golden opportunity for physicians politically for a long time to come. Richard Gimpelson, M.D., has given physicians a means to exert their political influence this year — NOW!

Many other colleagues we know and trust have told us what needs to be done; there's nothing left now to do but to begin to act. I have agreed to join Dr. Gimpelson's campaign committee and support his candidacy and I feel that all other physicians in the state should do the same. We now have a candidate to rally around — Richard J. Gimpelson, M.D.

Sincerely,
Gary A. Muncy, M.D.
Chesterfield

Help for the Impaired Physician

Through its Committee on the Impaired Physician, MSMA helps doctors who are suffering from alcoholism, other drug addiction, psychiatric disorders, or senility. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

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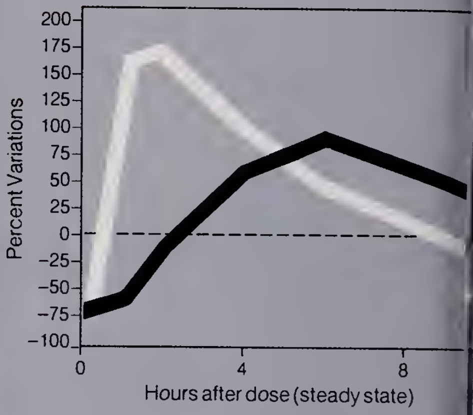

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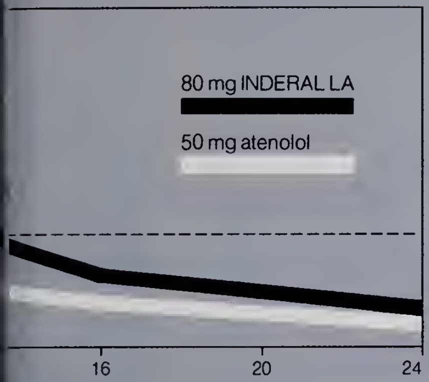

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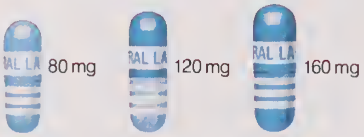

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CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol.

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs.

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function Propranolol is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs, such as reserpine should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS. Propranolol is excreted in human milk Caution should be exercised when propranolol is administered to a nursing mother.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

Hydrochlorothiazide: GENERAL. Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes Warning signs irrespective of cause are. Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather, appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS. Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

PREGNANCY: Pregnancy Category C. Thiazides cross the placental barrier and appear in cord blood The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult

NURSING MOTHERS: Thiazides appear in human milk. If use of the drug is deemed essential, the patient should stop nursing.

PEDIATRIC USE. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia, congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia; visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss; emotional lability, slightly clouded sensorium; and decreased performance on neuropsychometrics

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation; mesenteric arterial thrombosis; ischemic colitis.

Allergic: Pharyngitis and agranulocytosis; erythematous rash; fever combined with aching and sore throat; laryngospasm and respiratory distress.

Respiratory: Bronchospasm

Hematologic: Agranulocytosis; nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes; dry eyes; male impotence; and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

Hydrochlorothiazide:

Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis; sialadenitis.

Central Nervous System. Dizziness, vertigo; paresthesias; headache, xanthopsia.

Hematologic: Leukopenia; agranulocytosis; thrombocytopenia; aplastic anemia.

Cardiovascular. Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics).

Hypersensitivity: Purpura; photosensitivity; rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis), fever; respiratory distress, including pneumonitis; anaphylactic reactions.

Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm; weakness; restlessness, transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

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REFERENCES

1. Data on file, Ayerst Laboratories. **2.** Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323 **3.** Sumiye L, Vivian AS, Frisot KB, et al: Potassium loss associated with hydrochlorothiazide versus chlorthalidone. *Clin Ther* 1981,4 308-320. **4.** Ram CVS, Garrett BN, Kaplan NM: Moderate sodium restriction and various diuretics in the treatment of hypertension. *Arch Intern Med* 1981;141:1015-1019

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

As physicians, we have to decide just how much of a businessperson we can be in this new milieu and still be a good doctor.

Are we professionals or just businessmen?

In former, simpler days a young person could choose to go into business or into a profession. There were businessmen, and there were professional men. The two groups would get together in Rotary Club meetings; on the distaff side, the Business and Professional Women's Clubs would accommodate these two different aspects of endeavor. Now, as we all know, these basic distinctions are no longer valid. "Professional" is now a key word in many business groups — consider the "professional rug cleaner" or the "professional chimney sweep." But, before we medics cast too much disparagement, consider the other side of the coin. Professionals are now supposed to act like businessmen; just how well we are doing in the world of free enterprise is up for conjecture.

It has been said that physicians extol the virtue of living in a free enterprise system, but in general, want no active part in the capitalistic way of life which nutures it. Gradually, however, doctors are changing the way they practice. Medical services are being marketed; consultants are being hired; medical care groups are being established and organized; large industry health programs are being courted. Like any other socioeconomic change, there are many factors which are bringing this about.

The government, rightly or wrongly, believes that health care costs, a high-priced worrisome item in the federal budget, can be brought under control only in a competitive system. An excessive number of physicians in practice has fueled the change. For-profit hospitals and large health maintenance organizations are aggressively combining and expanding in the health care field; to them the doctors they employ are strictly hired hands.

Perhaps the attitude of today's graduating physician is also a factor. One writer notes that often the first questions a new doctor asks about his possible practice locations are the hours he will work and the time off he will be guaranteed; the next question concerns his income. Medical business much resembles the "real" business world.

For shoppers in a hurry, there are fast food outlets and 7-11 style markets. For medical shoppers, convenience is found in the streetside urgent care centers. There are specialty shops for clothing, music and hardware. There are specialty doctors who practice singularly or in small groups in dermatology, orthopedics and neurology. Then there are the big department stores like Sears and Dillards, and the big horizontal medical clinics to match.

As physicians, we have to decide just how much of a businessperson we can be in this new milieu and still be a good doctor. Certain business credos can be put to work. We have to consider "the customer is always right" in dealing with patients, blending what he needs with what he wants.

continued

Editor's Desk, *continued*

And, his medical wants may include that he be seen in the evenings or on weekends when he is off work. As health care insurance organizations proliferate, doctors are going to have to deal more with groups of people rather than individual patients in marketing practices. We have to look closely at our offices, being increasingly aware of cost factors involving equipment and personnel.

Somehow it is hard to believe that the local termite sprayer had to redirect his work style too much before he became a "professional pest exterminator." Our entry as physicians into the business world seems a bit more complicated. ■

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Physicians must not allow the push to control costs initiate changes that would threaten the quality of medical care.

MSMA must address health care changes

It is often said of medicine today that the only constant is change. Indeed the first change you will note is that Dr. Walter German is no longer writing the "President's Page."

I would like to take this opportunity to thank Walter for his excellent year as our president. By his travels throughout Missouri, he has made our Association visible again to all. He visited each component society, serving as the spokesperson for our Association, and returned to the Council from the grassroots, to share their problems and concerns. This communication is exciting and necessary in order to have a viable organization. Walter will be a hard act to follow. We all thank you, Walter, for a job well done.

There are many other changes occurring in the health care field. We physicians need to be very knowledgeable in all phases of health care, as "the captain of the ship." Two major changes affecting all are health care delivery systems and health care financing. The single reason for both is to lower the nation's health care costs. The final answer remains to be seen; however, physicians must not allow the push to control costs initiate changes that would threaten the quality of medical care.

Most physicians feel they can do little about costs, and in fact, are convinced the problem is a payment crisis, not a cost crisis. The traditional one-on-one, fee for service, physician-patient relationship has changed since the advent of health insurance plans some 40 years ago. Now with prepaid and capitation plans, HMOs, IPAs, PPOs and others, everyone gets confused, especially the doctor who doesn't read or understand what he signs. The California Medical Association has published a *Physicians' Contracting Handbook,* including 101 questions to ask before signing a contract.

The health care financing innovation of Diagnosis Related Groups (DRGs) by the federal government looks only at the specific area of hospital costs. The prospective pricing system implemented in the fall of 1983 doesn't allow complete freedom of a physician caring for a patient. We physicians must cooperate with the DRG system; however, we can never sacrifice quality of care or jeopardize patient health in the name of cost-cutting.

Environmental and social trends are also upon us, such as an aging population or the graying of America. The elderly consume twice the services and resources as other segments of the population, with more intensive, expensive, and continuing care. Thus a crucial social question rises — how much expenditure of medical resources will be spent on an elderly population? This then leads to the question of rationing of medical care, an abhorrent idea to all. If access to medical care is a basic human right, yet we are spending too much, how then is it to be provided? The allocation of scarce resources is a change which definitely needs our input.

Other changes are about, and over the year I hope to discuss these issues more in depth on the *"President's Page."* ■

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Auxiliary Message

by Gayle Vilmer
President

Your spouses are very perplexed about the black cloud of negativism that seems to hover over medicine and they are anxious to have your communities view you as dedicated health professionals concerned with the well-being of all patients.

Auxiliary will key in on MD public image

"... there are those who curse the lock... while others search to find the key..."

While visiting the county auxiliaries this past year in preparation for my year as president, I found the members involved in serving their communities' health needs. They are holding health fairs, organ donation seminars, abuse awareness and prevention programs — to name but a few. They are indeed presenting the image of the medical profession in a positive way.

But at each meeting there is a negative undercurrent. Words like malpractice, PPOs, DRGs and HMOs keep surfacing. Your spouses are very perplexed about the black cloud of negativism that seems to hover over medicine and they are anxious to have your communities see you as dedicated health care professionals concerned with the well-being of all patients.

As your Auxiliary, we have no illusions that we can reverse the difficult road physicians are traveling today. But we also will not sit idly by! My theme for this year is the KEY. As the Auxiliary is the volunteer arm of the Missouri State Medical Association and is MSMA's key to community involvement, so will each auxilian be represented as a key that will be used to unlock the areas of legislation, membership recruitment, health projects, positive media awareness and fundraising for AMA-ERF and MSMF.

In the area of legislation, we are prepared to send auxilians to the legislature once a week to visit with state senators and representatives to explain medicine's viewpoint. In addition, we will sponsor a "Day At The Legislature" where we will treat all of our state legislators to lunch while bending their ear on medical legislation. Many county auxiliaries are also inviting their legislators to speak at auxiliary meetings. Your Auxiliary is making itself visible to the legislators on behalf of the medical society.

As our strength and our future lies in our membership, we are conducting an aggressive membership drive. Doctor, please check to see that your spouse belongs to your Auxiliary. If we are to have clout in the legislature, we need a strong membership.

We will continue to educate our communities through various health-related seminars and programs. And we will provide a support group for our auxiliary members as they cope with the increasing pressures on you, their spouses.

Instead of cursing the lock on medicine, this year *your* Auxiliary will seek *your* guidance to promote *your* goals. Please call on us to use our keys to improve the quality of life in our communities and enhance the public image of the medical profession. ■

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The "Industrialization" vs. the Professionalism of Medicine, Part I

by Samuel B. Guze, M.D.

In the first part of this two-part series, Dr. Guze, vice chancellor at Washington University in St. Louis, takes a close look at the threat to physicians' medical ethics in a growing climate of public scrutiny, peer review, cost containment, conflicts of interest and industrialization. This article is based upon the Alpha Omega Alpha Lecture at Washington University School of Medicine.

Dr. Guze is head of the department of psychiatry at Washington University School of Medicine and psychiatrist-in-chief at Barnes and Renard hospitals.

"Worthy to serve the suffering" is the motto of Alpha Omega Alpha. To many of today's more sophisticated and more cynical individuals, physicians as well as laymen, such a motto may appear pretentious, naive, and even hypocritical. But it certainly conveys something of the spirit of what was meant by the concept of a learned profession. Responsibility, commitment, obligation, and duty were other elements.

The medical profession, according to such principles, is expected to put the welfare of its patients above all other considerations. The physician is obligated to understand and accept a special fiduciary responsibility to each patient, which means looking out for and working for the patient's best interests at all times.

The motto implies, to me at least, that its authors knew well that patients, by virtue of their relative ignorance of medicine, their fears, and their disabilities, are vulnerable to exploitation by unscrupulous practitioners and that the medical profession has a paramount responsibility to foster and strengthen the most ethical standards of practice. Because society believes that the medical profession generally strives to meet such standards, physicians are granted great privileges and rewards, as well as respect.

Until very recently, even though individual physicians, on occasion and to varying degrees, may have betrayed their trust, the profession as a whole continued its commitment to its traditional ethical principles, and the conditions of practice for the most part did not present systematic and powerful pressures that might work against the traditional principles. A major exception may have been the general tendency of physicians, over the past 20 years to shift, whenever possible, the care of patients unable to pay private fees to local government supported or charity hospitals and clinics, rather than care for them directly despite the fact that a growing percentage of their patients had adequate insurance coverage.

The environment in which the practice of medicine now finds itself is generating forces with great potential for influencing traditional ethical principles. These forces derive from what has been recognized as the "industrialization" of medicine. Included under this term are most, if not all, current efforts to rationalize the organization of practice according to modern concepts of management, to contain medical costs, or to generate profits for stockholders. To the extent that the individual physician is encouraged or forced to consider the financial implications of his or her clinical decisions, other than those financial implications that directly affect the particular patient, traditional principles will be weakened.

It is one thing for the physician to consider the patient's financial situation in planning a diagnostic or therapeutic strategy and another to consider someone else's financial situation. It is one thing for physicians to examine in general the way particular medical disorders are studied and managed with an eye to eliminating costs that may not be necessary. (This may lead to fewer laboratory tests, x-rays, and days of hospitalizations. It may even lead to fewer hospitalizations.) But, it is another thing if the same physicians, caring for individual patients, decide to eliminate certain tests or x-rays, knowing that the physicians may benefit financially from such actions.

The decision to perform an operation in the physician's office or clinic because the patient's hospitalization insurance is inadequate and the patient is otherwise unable to afford the costs of hospitalization presents no challenge to the traditional mandate to do whatever appears best for the patient. The physician under such circumstances is obligated to try to arrange for the inpatient surgery if he or she considers it best for the patient. But if it cannot be arranged despite sincere efforts, the physician can be reassured that he or she has behaved in a ethical fashion.

> *"To the extent that the individual physician is encouraged or forced to consider the financial implications of his or her clinical decisions, other than those financial implications that directly affect the particular patient, traditional principles will be weakened."*

On the other hand, performing the operation in the office or clinic *may* raise ethical questions *if* the physician receives a financial reward for the decision, either in the form of a higher fee for outpatient surgery or in the form of sharing in the year-end distribution of unexpended funds from the hospitalization insurance pool. It is clear that physicians increasingly are finding themselves in such dilemmas. There is little reason to think that these circumstances will not increase in the future.

It should be emphasized at this point that many aspects of the industrialization of medicine may be necessary, useful, and even desirable. Efficient allocation of resources, cost-containment, and better organizational structures for the delivery of medical care can be very helpful and perhaps essential if all individuals are to receive good care at costs all can afford. Even the controversial hospitals, HMOs, and other medical facilities that are investor-owned may in some ways help achieve such goals. But all of these developments bring to the practice of medicine new and disruptive issues. Values and concepts traditionally associated with business and industry are coming to the fore in medicine. They may even come to dominate its practice.

It is highly likely that many of these new developments in the way medicine is to be practiced will increase the physician's potential conflicts of interest. There is certainly nothing new about conflicts of interest; they have always been around. But as the roles and responsibilities of physicians become more complex under the pressures now mounting, potential conflicts of interest become more numerous and more difficult to resist. Physicians have long recognized that a potential conflict of interest may exist if the physician owns the pharmacy or optical shop to which the patient is referred for drugs or eye glasses. Physicians also have recognized the potential conflict of interest inherent in fee-splitting. But the medical profession has not systematically viewed other somewhat similar possibilities in the same way. Physicians have not generally faced the potential conflict of interest inherent in recommending a diagnostic or treatment procedure which they are to perform and for which they will generate a fee. Recommending a chest x-ray, electrocardiogram, skin tests, urinalysis, blood chemistry, blood counts, ECT, surgery, etc., to be performed by or in the office of the recommending physician, who will benefit financially from the recommended actions, are common examples of such possibilities.

Such circumstances appear to be increasing at this time. Many physicians, facing growing competition from all directions, are developing or have developed in their own offices the capacity to carry out a wide array of diagnostic and therapeutic procedures traditionally provided in the hospital.

These include the services of many kinds of allied health professionals, such as psychologists, social workers, and physical therapists; the capacity to perform computerized tomography and magnetic resonance scans; and facilities for ambulatory surgery. In all of these, the physician hopes to increase the efficiency of his or her practice and to increase his or her income by generating profits heretofore the province of the hospitals.

Now, there is an important difference between sending a patient with a prescription to a particular drug store that the physician may own, without the patient's knowledge, and ordering an electrocardiogram to be performed in the physician's office with the patient knowing that the physician will receive a fee for the procedure. But, even in the latter situation, there can be a significant potential conflict of interest. The frequency and range of possible tests and services leave great latitude for the physician's judgement. Indications for many tests, x-rays, and other procedures are not fully objective and precise. Furthermore, it is in just the area of technological procedures and tests that future competition will exert powerful pressures to contain costs through the mechanism of for-profit companies that will not be looking to such procedures as a way to compensate for reduced numbers of patients (to be discussed later), but as a straightforward profit-making venture. This can lead to reduced fees per procedure, but a parallel push to perform the procedures more frequently.

It must be emphasized that potential conflict of interest does not mean that the physician is making a clinically inappropriate recommendation or that the recommended procedure is not in the patient's best interest. It only raises the possibility that the physician could be influenced to some extent by the potential financial advantage. Reducing or eliminating all such potential conflicts of interest would reinforce and strengthen medicine's professionalism and ethics. But it clearly would not be easy to accomplish. To the extent that all potential conflicts of interest cannot be removed, it may be necesary to face them openly and publicly.

"Physicians could develop and organize new peer review arrangements motivated exclusively to improve the quality of care, rather than, as is currently the situation, to contain costs."

Because of the widespread possibilities for conflicts of interest in our complicated society, declaring and making explicit potential conflicts of interest is now beginning to become more widespread in industry and government. Individuals who may be called upon to make decisions, give advice, or judge programs are being asked to list and describe associations, investments, and other connections that might influence the individual's behavior.

Following the precedent from industry and government, disclosure concerning potential conflicts of interest facing physicians, clinics, and hospitals could be made to patients and the public in general. All third party payers could be required to make clear to those whom they intend to serve in what ways their programs may be associated with potential conflicts of interest for any and all providers. They could be expected to indicate the financial implications associated with various options concerning the medical care to be provided. The warnings and explanations would have to be clear enough and detailed enough so that the average person will understand them. Hospitals, clinics, and physicians could also be required to remind patients of the arrangements under which the medical care is to be provided that might place the providers in conflict of interest situations. Such disclosure should reduce the risk that the patient's interest may be slighted. Disclosure and discussions between patients and providers that are likely to follow ought to result in a more conscious and deliberate compliance with accepted ethical principles.

But there are obvious risks associated with disclosure concerning potential conflicts of interest. For some patients and their families, it could lead to confidence-eroding suspicion of the physician's motives despite efforts at openness and free discussion. Some may see it as encouraging even more malpractice suits. Such risks have to be weighed against the risk that medicine's status as an independent profession, with high ethical standards, always acting in the patient's interests, will be eroded if some control of potential conflicts of interest is not put in place.

Peer review, properly conceived and carried out, could be another powerful force for the maintenance of high ethical and professional standards. Peer review, in fact, could be the most important mechanism for accomplishing this goal. Physicians have long known that laymen, no matter how intelligent or how well educated, are seldom truly able to judge the professional, scientific, and technical skills of their physicians. Patients can judge whether the physicians are responsive and attentive, kind and considerate, gentle and sympathetic. But patients cannot tell whether their physicians have kept up-to-date, are considering all relevant possibilities, and are appropriately technically skilled. It is even difficult sometimes for physicians in other specialties to make such evaluations.

Physicians could develop and organize new peer review arrangements motivated exclusively to improve the quality of care, rather than, as is currently the situation, to contain costs. For such peer review to be most effective, all practicing physicians would have to be involved in it. They would all have to be subject to review and participate in such reviews. The reviews would have to include a variety of elements, and certain kinds of cases or treatments might require different kinds of reviews. Decisions to hospitalize or not, the choice and number of tests and x-rays, the decision to operate, the use of certain medications, the quality and frequency of follow-up, the physician's efforts to explain matters to the patient and the patient's family are among some of the appropriate elements.

Such reviews would have to be regular and reasonably frequent, involving representative, perhaps random, outpatients as well as inpatients. Ideally, the reviews should be conceptualized and carried out as efforts to improve the physician's practice. Knowing that one's diagnostic and therapeutic efforts are to be examined and discussed by one's colleagues is a powerful stimulus to improve practice for the great majority of physicians. Reviews could serve as major opportunities for continuing education, for consultation, and even for reassurance that one is doing everything possible for the patient.

Such peer reviews obviously also carry costs and perhaps risks. First of all, if taken seriously, they would be time-consuming and, therefore, costly. It takes significantly more time to review a case for professional quality than for cost containment. Much of it, if not all, would require the participation of physicians rather than other personnel, as is the case in review for cost containment. Such reviews might also carry increased risk for malpractice suits, if the reviewing physicians were critical of the way the patient had been handled. Yet here, too, the risks and costs would have to be weighed against the risks and costs associated with pursuing the present course.

Peer review directed at achieving the highest professional standards could offer the medical profession an opportunity to police itself with regard to conflicts of interest and professional competence. Coupled with public disclosure of potential conflicts of interest, peer review could be a powerful device for preserving professional autonomy in the face of growing industrialization. At the same time, such peer review would represent a major departure from the present situation in which physicians practice in relative isolation, with few opportunities for their peers to scrutinize systematically what each physician does. ■

Next month, Dr. Guze discusses the choices facing physicians today and in the future including possible unionization and income reduction. He will explore the need for physicians to develop new relationships and organizations to foster professionalism and he will offer one possible solution to preserve professionalism in medicine.

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Clinical Features of 12 Cases of Acquired Immune Deficiency Syndrome

Experience at the University of Missouri-Columbia

Jeffry T. King, M.D., and E. Dale Everett, M.D.
Columbia, Missouri

The case histories of three patients with Acquired Immune Deficiency Syndrome (AIDS), who were treated at the University of Missouri-Columbia, are reviewed. Clinical features of these and nine other cases of AIDS are presented. The reviews may prove useful to Missouri physicians, since the incidence of AIDS is expected to rise in this state.

In the United States, the acquired immune deficiency syndrome (AIDS) was first reported in homosexual men in 1981.[1] The Centers for Disease Control (CDC) concluded in 1982 that the majority of cases have occurred since January 1981, although the first cases had their onset in 1979.[2] As of November 22, 1985, the CDC had counted 14,504 reported cases of AIDS, and slightly more than half of these persons have since died.[3] Missouri has accounted for only 75 (0.5%) of the cases reported nationally. The national and statewide incidence, however, will continue to rise, and it will become increasingly important for Missouri physicians to recognize this disease. It is predicted that more than 12,000 additional cases will be diagnosed between July 1985 and June 1986, with more than half of these cases predicted to be from states other than New York and California.[4]

Since November 1983, twelve patients with AIDS have been cared for at the teaching hospitals affiliated with the University of Missouri School of Medicine at Columbia. This report is intended to highlight the clinical findings and course of these 12 patients (Table 1) and to briefly compare others' experience in caring for such patients. Three individual cases are described followed by a review of the spectrum of presentations of the syndrome.

Case Reports

Case No. 3. A 42-year-old white man with hemophilia A was seen in April 1984, with a four-week history of recurrent, non-productive cough, chest tightness, and dyspnea on exertion. There had been no improvement in symptoms after two outpatient courses of penicillin and ampicillin. The patient had

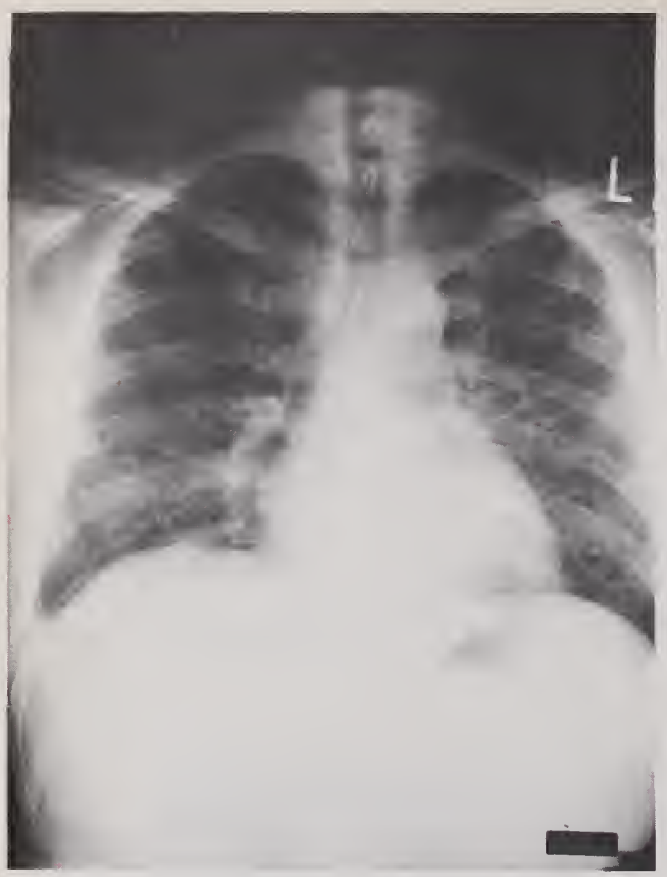

Figure 1. Radiographic appearance of *Pneumocystis carninii* pneumonia (Case 3).

also noted diarrhea and anorexia. Two days prior to admission he noted the onset of fever. His physician had observed the presence of oral thrush.

The past medical history was notable for recurrent hemarthroses for which the patient had required multiple factor VIII transfusions. In 1978, he developed non-A, non-B hepatitis. He had non-specific changes on liver biopsy in 1979, and had one recurrence of transaminase elevations in 1980. No other health problems had preceded the onset of the present illness.

On admission, the patient had a pulse of 104, blood pressure of 134/70, and a temperature of 100.4°F. Whitish plaques with an erythematous base were noted on the oral mucosa. Breath sounds were decreased bilaterally. The initial chest x-ray showed a diffuse bilateral reticular-nodular infiltrate (Fig. 1). PO_2 on room air was 67. The white blood cell count was 3,600 with 59% polys, 9% bands, 23% lymphs, 6% monos, 1% basophils, and 2% eosinophils. The platelet count was 106,000. Purified protein derivative and control antigen skin tests for delayed hypersensitivity were negative at 48 hours. Urinalysis was remarkable for trace protein, 1 to 3 WBCs, and the presence of trichomonas. Flow cytometric analysis of peripheral blood demonstrated moderately severe lymphopenia (700 total lymphocytes) with a helper/suppressor (OKT4/OKT8) lymphocyte ratio of less than 0.015:1.0.

The patient was initially treated with parenteral erythromycin and 20 mg/kg/day of trimethoprim/sulfamethoxazole (TMP/SMZ). On the second hospital day, the chest x-ray showed increasing reticular-nodular infiltrates. There was a progressive decline in arterial oxygenation. Open lung biopsy on the fourth hospital day confirmed the presence of *Pneumocystis carinii* pneumonia. TMP/SMZ alone was subsequently continued, but the patient's pulmonary function continued to deteriorate. By the 10th hospital day, his temperature had risen to 102.6°F, and the patient required intubation and mechanical ventilation. Because of lack of objective improvement, a 14-day course of intravenous pentamidine was administered, followed by 10 days of chloroquine therapy. He was also placed on intravenous steroids in an attempt to reduce lung injury.

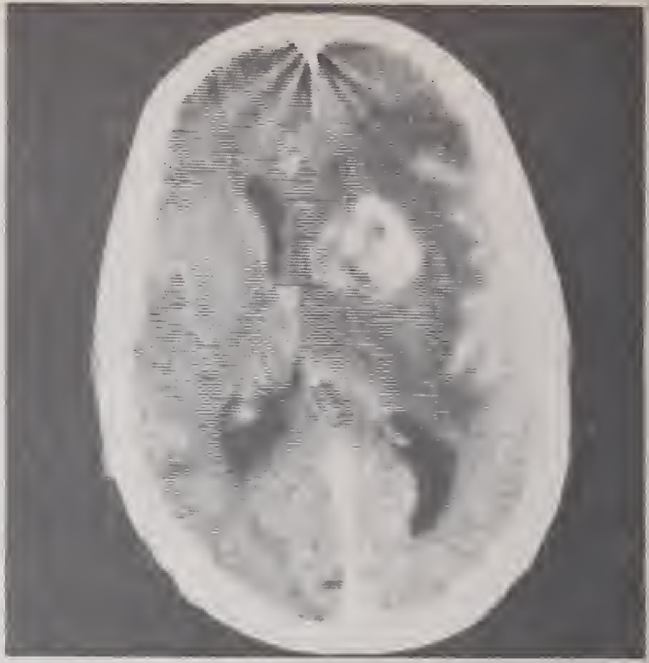

Figure 2. Toxoplasma abscess demonstrated by head CT scan (Case 5).

After 36 days of mechanical ventilation, an episode of *Serratia marcescens* sepsis, lower gastrointestinal bleeding, and 73 days of hospitalization, the patient was well enough to return home on suppressive TMP/SMZ therapy. Five months later, the infiltrates on chest x-ray had cleared, but repeat OKT4/OKT8 was still markedly depressed, at 0.03:1.0 with 1,400 total lymphocytes. Subsequently, he sustained an episode of disseminated *Herpes zoster* and an episode of retinitis in the left eye believed due to cytomegalovirus. Over the next several months, the patient's health gradually deteriorated because of chronic watery diarrhea, colitis of undefined etiology, and persistent weight loss. He eventually died of a fulminant diffuse pneumonia of uncertain cause.

Case No. 5: A 32-year-old white man was brought to the hospital in June 1984, by relatives, for evaluation of mental confusion and weakness of the right upper extremity. The patient was disoriented and unable to provide a history. The family said the patient had a history of schizophrenia and a probable history of homosexual activity. The patient was known to have lived in California for several years before returning to Missouri, 18 months prior to onset of illness. Over the three weeks before admission, the patient had had intermittent fevers, anorexia, watery diarrhea, and a 15-pound weight loss. Physical examination was remarkable for temperature of 101.3°F, shotty right axillary adenopathy, coarse rhonchi in both lung fields, and superficial excoriations about the anus. Head computed tomography (CT) scan demonstrated a mass lesion of the left basal ganglia with moderate right midline shift (Fig. 2). Cerebrospinal fluid was remarkable only for a protein level of 136 mg/dl without pleocytosis or hypoglycorrhachia. The patient was anergic to skin testing and had an OKT4/OKT8 ratio of 0.06:1.0. Stool ova and parasite examination was positive for *Giardia lamblia* cysts and trophozoites. Viral culture of a perirectal lesion was positive for *Herpes simplex* virus.

The patient was placed on oral metronidazole, topical acyclovir, and oral dexamethasone. A percutaneous biopsy of the brain lesion under ultrasonic guidance was performed on the ninth hospital day. Because of clinical suspicion of CNS toxoplasmosis and progressive right upper extremity weakness, the patient was begun on a regimen of pyrimethamine and sulfadiazine four days prior to the biopsy. Initial interpretation of the biopsy specimen indicated the presence of histoplasmosis, and therapy was switched to amphotericin. On the 11th hospital day, the patient had an aspiration episode accompanied by cardiopulmonary arrest and died a few days later without regaining consciousness. No postmortem examination was granted. Review of the original brain biopsy specimen by the Armed Forces Institute of Pathology was interpreted as consistent with toxoplasmosis rather than histoplasmosis.

Case No. 6: A 38-year-old white man, who was bisexual and an intravenous drug abuser with a four-year history of diffuse lymphadenopathy, was admitted in the fall of 1984 for evaluation of fever and weight loss. Past history disclosed that in 1980 he had been seen for a 10-pound weight loss, dysuria, urethral discharge, and diffuse shotty cervical, axillary, and inguinal adenopathy. White blood cell count was 9,200 with 23% lymphocytes. Serum VDRL was nonreactive, but smear and culture of urethral discharge was positive for gonorrhea, for which the patient received penicillin therapy. A submental lymph node biopsy revealed only reactive hyperplasia.

Several days before Christmas 1983, the patient noted daily fevers and shaking chills. In February 1984, a repeat lymph node biopsy was obtained from the right groin showing acute and chronic necrotizing lymphadenitis with fibrosis. After no response to a course of oral tetracycline, the patient was admitted to another hospital for further evaluation. In addition to his lymphadenopathy, splenomegaly was now also detected. White blood cell count was 5,100 with 7% lymphocytes. Platelet count was 107,000. Serum RPR was positive at 1:1 dilution, but MHA-TP was nonreactive. Febrile agglutinins, fungal titers, CMV and toxoplasmosis titers were non-diagnostic. Serum IgM and IgA were elevated, with a normal IgG level.

He was transferred to UMC, where a bone marrow biopsy showed moderate myeloid hyperplasia, reactive plasmacytosis, and hypoproliferative anemia. The previous node biopsy was reviewed and still felt to show non-specific changes. OKT4/OKT8 ratio was assayed and found to be abnormal at 0.15:1.0.

His symptoms subsided somewhat until September 1984, when the patient again had fever, weight loss, and fatigue. White blood cell count now showed 3,000 cells with 13% lymphocytes. Platelet count was 89,000. Lumbar puncture was normal. Repeat bone marrow biopsy demonstrated small budding yeast, later identified on culture as *Histoplasma capsulatum*. Because of evidence of possible *Nocardia* in the bone marrow, TMP/SMZ therapy was begun in addition to amphotericin B. When *Nocardia* was not cultured from the marrow, the sulfonamide was discontinued. Because of hyponatremia and an abnormal ACTH-stimulation test consistent with partial adrenal insufficiency, the patient was also treated with steroids. He received a total dose of 2 g. of amphotericin and was subsequently placed on 400 mg. of ketoconazole daily.

Subsequent bone marrow samples showed clearing of the histoplasmosis but persistent pancytopenia. The patient continued to do poorly with an episode of pericardial effusion of unknown etiology, an episode of Bell's palsy secondary to facial zoster, and retinal hemorrhages felt to be related to his thrombocytopenia. He eventually died in June 1985 of cytomegalovirus encephalitis diagnosed postmortem.

Discussion

Twelve individuals with acquired immune deficiency syndrome have been evaluated between 1983 and the present. Their clinical characteristics are outlined in the table. The preceding three cases highlight several of the common clinical presentations of AIDS, which will be reviewed in further detail. These diseases are *Pneumocystis carinii* pneumonia (PCP), central nervous system diseases, and disseminated opportunistic infections. In our 12 cases, eight had pneumocystis pneumonia, four had nervous system disease, and three had disseminated opportunistic infections.

Pneumonia. The most common presentation of AIDS recognized to date is pneumonia secondary to *Pneumocystis carinii* infection. This parasitic organism rarely causes disease in immunocompetent persons, but is well known to infect patients with congenital immune deficiencies and patients on immunosuppressive therapy.[5, 6] By 1981, homosexuals and intravenous drug abusers were recognized as having cellular immune dysfunction and an increased incidence of PCP.[7, 8] A similar predisposition was soon recognized in hemophiliacs[9] and Haitian immigrants.[10]

Of all the AIDS cases nationally, 57% have had PCP without Kaposi's sarcoma (KS) and another 6% had both KS and PCP.[11] Our experience has been similar, with eight out of 12 patients having PCP, but no patients recognized with KS thus far. All eight of our patients with pneumocystis pneumonia had significant risk factors: six were homosexuals, one was an intravenous drug abuser, and one was a hemophiliac. Four of the eight patients reported dyspnea of at least one month's duration, occasionally associated with chest tightness or frank pleuritic chest pain. All but one of the PCP patients reported cough, usually non-productive or productive of only whitish sputum. Most patients reported anorexia, and variable weight loss occurred in all of the patients.

These individuals had all made at least one visit to a physician prior to hospitalization, with two patients having made up to three visits for their symptoms. In most cases, the patients were given a trial of oral or parenteral antibiotics with little or no improvement of symptoms. Physical findings were variable with the exception of oral candidiasis, which was documented in at least seven of the eight cases. Maximum temperature varied from 100.9°F to 104.5°F after hospitalization. Lung findings ranged from decreased breath sounds in one patient to diffuse bilateral rales in the others. There was no uniformity as to the presence or absence of lymphadenopathy or hepatosplenomegaly.

Certain laboratory findings were more common, however. The chest x-ray, available in five of six cases, showed a diffuse infiltrate of the lungs. The location of infiltrates in our cases varied from unilateral to bilateral and from upper or lower to central. Two were interpreted as reticulo-nodular, one as interstitial, and one as alveolar. Another was simply described as nonhomogeneous. Notably, one patient had no definite infiltrate on admission, but developed bibasilar infiltrates three days after admission. These findings are in general agreement with recently published observations.[12] In Stover's series, no patient with PCP had segmental or lobar consolidation, but 14% of 36 patients did have normal chest roentgenographs during acute episodes of PCP. The admission PO_2 in our group ranged from 33 to 84 mmHg on room air.

The current diagnostic method of choice has been transbronchial biopsy[13] or bronchoalveolar lavage.[14] Open lung biopsy (OLB) has been reserved for suspected cases of AIDS with initial nondiagnostic fiberoptic bronchoscopy findings or in bronchoscopically proven cases of PCP that fail to improve on specific antibiotic therapy.[13] Six of eight cases were successfully diagnosed by bronchoscopy and two by OLB. OLB was performed in the hemophiliac (Case No. 3), because of concern for adequate hemostasis at the biopsy site, plus the lack of improvement on empiric doses of TMP/SMZ.

Most physicians treating PCP in the setting of AIDS initially use TMP/SMZ at 20 mg. trimethoprim/kg body weight/day in three or four divided doses for 14 days.[15] Although other immunocompromised patients treated with TMP/SMZ have about a 15% incidence of adverse reactions,[16] AIDS patients apparently have 10 times the incidence of skin rashes, and a higher incidence of fever, hematologic abnormalities, and hepatic toxicity.[17] Of our eight cases of PCP treated with TMP/SMZ, three developed skin rash, two with concomitant fever, and one had gastrointestinal intolerance. Only one patient, patient No. 3, clinically failed therapy and required a switch to pentamidine after 10 days of TMP/SMZ. Only three of the eight required mechanical ventilation.

In those who did respond to TMP/SMZ, the mean number of days to afebrility ($T \leq 99.5°F$) with therapy was eight (range four to 19 days). The mean number of days to perceptible radiographic improvement was 15 (range of four to 23 days). This was comparable to the findings in Stover's patients, who had a mean of 12 days (range three to 28 days) before radiographic improvement.[12] Of four patients who had follow-up chest films available, all were radiographically clear by one to three months after treatment. Seven patients have been maintained on prophylactic oral TMP/SMZ, as is generally recommended.[18] One had been maintained on weekly sulfadoxine/pyrimethamine (Fansidar) prophylaxis.

Nervous System Disease. The differential diagnosis of central nervous system lesions in AIDS patients include fungal meningitis, tuberculous meningitis, viral encephalitis, toxoplasma encephalitis and abscess, and progressive multifocal leukoencephalopathy, as well as non-infectious causes, such as primary CNS lymphoma and metastatic Kaposi's sarcoma. Most recently, direct CNS infection with AIDS virus has been documented.[19]

Case No. 5 demonstrated one of these lesions, namely toxoplasma abscess, and the inherent difficulty in diagnosis. Other case reports note fever, weakness, and eventual development of focal neurologic signs and mental confusion.[20, 21] Serologic testing and cerebrospinal fluid examinations are often not helpful,[22] as was the case in this patient. Head CT scan is sensitive and helpful in defining mass lesions and in following response to therapy, but is not specific at designating cause.[24] Brain biopsy remains the diagnostic method of choice in evaluating intracranial mass lesions in patients with suspected AIDS. The importance of diagnostic biopsy was evident in Case No. 12, a chronic renal failure patient with positive HTLV-III serology test results from prior blood transfusions. He presented with a seizure and papilledema. Biopsy of a frontal lobe lesion seen on CT scan revealed lymphoma.

Less well defined cases of subacute encephalitis have been described.[24] Also described is non-specific cognitive dysfunction that may be directly related to HTLV-III's neurotropism.[25] Two of our patients had illnesses fitting these categories. Case No. 1 had a progressive dementing illness spanning a two-year period. His head CT scan one year into his illness demonstrated only moderate generalized atrophy. Four lumbar punctures during that time were only

Table 1

Case	Age	Risk Factors	*HTLV-III* *Antibody*	*OKT4/OKT8* *Ratio*	*Clinical Diagnosies*	*Outcome*
1	36	Homosexual	N.D.	N.D.	Subacute encephalitis.	Dead at 24 months.
2	31	I.V. Drug Use	N.D.	0.5	PCP, dissem. MAI, thrush.	Unknown
3	42	Hemophiliac	N.D.	<.015, 0.03	PCP, dissem. HZ, thrush, Trich. CMV, retinitis, chronic diarrhea.	Dead at 19 months.
4	27	Homosexual	N.D.	0.4	PCP, thrush.	Unknown
5	32	Homosexual	N.D.	0.06	CNS toxoplasmosis, intestinal Giardia, perianal herpes.	Dead at 1 month.
6	38	Bisexual, IV Drug Use	N.D.	0.15, 0.5	Dissem. histoplasmosis, facial HZ, thrush, CMV conjunctivitis and encephalitis, thrush.	Dead at 9 months.
7	29	Homosexual	+	0.5	PCP, dissem. histoplasmosis, thrush.	Alive at 5 months; debilitated.
8	37	Homosexual	N.D.	0.1	PCP, thrush.	Alive at 5 months.
9	36	Bisexual	+	0.1	PCP, thrush, perianal herpes.	Alive at 3 months.
10	47	Homosexual	+	0.1	PCP, thrush.	Dead at 3 months.
11	30	Homosexual	N.D.	N.D.	PCP, thrush, pneumococcal sepsis, chronic diarrhea, CMV hepatitis, perianal herpes.	Dead at 13 months.
12	33	Blood Transfusions	+	0.5	CNS lymphoma.	Alive at 2 months; debilitated.

N.D. = not done
PCP = *Pneumocystis carinii* pneumonia
HZ = Herpes zoster
CMV = cytomegalovirus
MAI = *M-avium-intracellulare*

remarkable for elevated protein levels of 60, 91, 130, and 168 mg/dl, respectively. Due to lack of definitive viral, fungal, or toxoplasma titers, brain biopsy was undertaken and showed only nonspecific changes of external degeneration and gliosis without inclusion bodies or spongioform changes. Two months later, the patient died after progressive mental status deterioration and inanition.

Case No. 6, likewise, had progressive mental deterioration. The course was preceded by an episode of viral conjunctivitis of the right eye and complicated by an episode of generalized seizure prior to his final hospitalization here. His CT scan showed only dilated ventricles, but his lumbar puncture showed protein 2,035 mg/dl, glucose 76 mg/dl, RBC 23,605/mm^3, and WBC 617/mm^3 with 94% lymphocytes. Concerns included reactivation histoplasmosis and CNS zoster. He was treated with amphotericin and acyclovir with no improvement. He died 12 days after admission. Postmortem brain examination revealed mild subarachnoid hemorrhage grossly and Cowdry A inclusions microscopically, strongly suggestive of cytomegalovirus infection. Central nervous system complications of AIDS appear to be the most difficult to manage and in our experience have been highly lethal.

Disseminated Opportunistic Infections. Of the numerous disseminated opportunistic infections found in AIDS patients, two cases have been evaluated here. One of the earliest reported disseminated opportunistic infections of AIDS was *Mycobacterium avium-intracellulare*.[26, 27] *M. avium* and *M. intracellulare* are Runyon group III non-photochromogens that are referred to as *M. avium-intracellulare* complex (MAI), because they so closely resemble each other in the laboratory. They are also notoriously resistant to standard antituberculous agents. Patient No. 2 presented with this infection. His primary presenting symptom was daily fevers from 103°F to 104°F. His evaluation had included a bone marrow biopsy, which revealed multiple granulomata, although these are not always demonstrable even in the presence of organisms in the marrow. His MAI was resistant to isoniazid, rifampin, and streptomycin, but sensitive to ethambutol and ethionamide. He was discharged to care closer to his home on five drugs: INH, rifampin, ethambutol, pyrazinamide and streptomycin. Currently, therapy of MAI should probably include ansamycin (available from the Centers for Disease Control) and possibly clofazamine.[28]

Patient No. 6, previously described, presented with a less commonly found disseminated fungal infection, histoplasmosis.[29] It may be that more cases of disseminated histoplasmosis associated with AIDS will occur in Missouri due to the endemnicity of *Histoplasma capsulatum* in the Mississippi River valley. Also noteworthy was the relative adrenal insufficiency in this patient. At postmortem examination, the patient was indeed found to have focal necrosis of the right adrenal gland with a probable granuloma.

Although one could consider cytomegalovirus infection to be the cause of the adrenal necrosis, no evidence of CMV infection was found outside the brain at autopsy. His bone marrow was free of histoplasmosis, however, on two successive occasions after completion of the amphotericin therapy. While histoplasmosis in the immunocompetent host may respond to ketoconazole, amphotericin remains the therapy of choice in the immunocompromised individual.

At this point, we have not diagnosed disseminated *Candida, Aspergillus, Nocardia, Isospora,* or *Cryptosporidia*, which are well known to complicate AIDS. Localized thrush was common in our patients, even though there were no documented invasive *Candida* infections. All patients responded to oral nystatin or to oral ketoconazole, although recurrences were common with discontinuation of these drugs.

Summary

Twelve cases of AIDS seen in the last two years at this institution demonstrate many similarities to nationally reported cases. The patients consisted of 12 men: seven homosexuals, two bisexuals (one with intravenous drug use), one heterosexual intravenous drug abuser, one hemophiliac, and one multiply-transfused patient. Eight of 12 had previously resided in or visited the East or West Coast. Eight patients developed pneumocystis pneumonia, four had neurologic abnormalities, and three had disseminated opportunistic infections. Oropharyngeal candidiasis was documented in 10 of the cases. Lymphadenopathy was variable. Six of six patients skin-tested were anergic. Eight of 10 had serologic evidence of hepatitis B exposure (positive HBsAb and/or positive HBcAb), but none were HBsAg positive. Whether any had received hepatitis B vaccination previously is unknown. None had positive tests for syphilis, although three had active perianal herpes infection, one had trichomonas urethritis, and one of the three with perianal herpes also had intestinal giardiasis. Of the other patients whose stools were examined, no other bacterial pathogens or parasites were found. Most of the patients who had serologic studies performed for cytomegalovirus and Epstein-Barr virus had evidence of previous exposure, but no elevations indicative of acute infection. Two patients did have urine viral culture positive for cytomegalovirus. One was presumably a carrier, but the other had severe hepatitis attributed to CMV.

Conspicuously infrequent among these 12 patients were any of the non-infectious complications associated with AIDS. Specifically, there were no cases of Kaposi's sarcoma and only one case of CNS lymphoma. One patient did have progressive dementia with no infectious etiology found, and one patient had persistent unexplained pancytopenia after treatment of disseminated histoplasmosis.

These cases demonstrate the importance of a symptom-oriented history, physical, and laboratory evaluation. Because of the unusual nature of the pathogens that infect these patients with depressed cellular immunity, invasive diagnostic procedures were often required. Unfortunately, treatment of these infections may not prolong ultimate survival until methods of modifying or preventing the immune suppression caused by HTLV-III, the AIDS virus, become available. Currently, investigational therapy with suramin, isoprinosine, interferons, and HAP-23 is being carried out; however, none of these has been conclusively shown to be effective. For the present, only expectant management is available for most patients.

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Treatment of Carotid-Cavernous Fistula by Intravascular Balloon Embolization

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The embolization of carotid-cavernous fistula by means of an intravascular, detachable balloon is a relatively new treatment for the defect. Two case reports are presented, along with a report on the patients' long-term results.

Carotid-cavernous sinus fistula may occur as a result of a spontaneous rupture or a traumatic laceration of the carotid artery into the cavernous sinus. The carotid-cavernous fistula (CCF) may be classified into three different types, according to the site of the fistula: external, internal carotid, or a combination of both.[1, 2]

Several therapeutic procedures have been developed, including direct surgical or intravascular occlusive therapy.[3] The techniques of intravascular embolization have rapidly been improved, and have become the treatment of choice for carotid-cavernous fistulas.[4] The detachable balloon is used for internal carotid fistula, and particulate materials are used for external carotid-cavernous sinus fistula. We present here two patients with internal carotid-cavernous sinus fistula, their ophthalmologic and radiologic findings, course, management, and long-term results. These are the first two patients we are aware of who have been treated by detachable balloon embolization in Missouri.

Case Reports

Case No. 1. A 39-year-old, mentally retarded white woman had the chief complaint of a red left eye of uncertain duration in April 1982. Initial examination revealed visual acuity of 20/20 OU with −.25 sphere correction OU. The episcleral vessels were markedly dilated, and there was 5 mm of proptosis noted on the left. A loud orbital bruit was heard with the stethoscope over the left eye. Examination of pupils, extraocular muscles and anterior segment were within normal limits. The intraocular pressure (IOP) was 19 OD and 18 OS. Fundus examination showed a cup to disc ratio of 0.3 OD; 0.2 OS with a mildly hyperemic disc OS. The HPI was difficult to ascertain because of the patient's low IQ. However, it was noted from past medical records that the patient had previously been in an accident involving a bus in November 1981. At that time, the patient sustained a basilar skull fracture without loss of consciousness and was hospitalized less than 48 hours for observation.

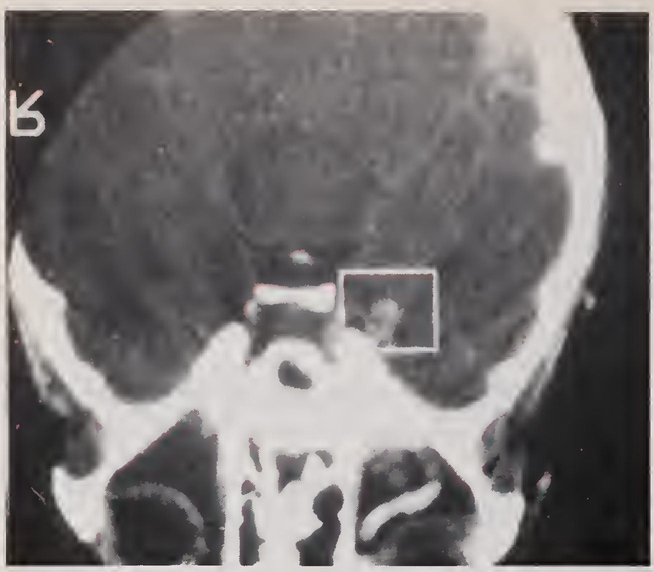

Figure 1. CAT scan of head and orbit showing superior ophthalmic vein dilatation and carotid-cavernous fistula on left.

Because of the presenting signs and symptoms, carotid-cavernous sinus fistula was suspected. A computed axial tomography (CAT) scan of the head and orbits, a cerebral angiogram, and a digital subtraction angiogram were obtained. These revealed a left internal carotid-cavernous sinus fistula (Figs. 1-3).

The patient was observed closely in both the neurosurgery and neuro-ophthalmology clinics until June 1983. She experienced no change in visual acuity, degree of proptosis, or cup to disc ratio. The intraocular pressure was mildly elevated to 25 in the left eye without medication.

The patient was then observed elsewhere and was started on a regimen of timolol maleate (Timoptic) 0.5%, propine 0.1%, and pilocarpine 4% in the left eye. We next saw the patient in January 1984, at which time her IOP had increased to 30 with medical treatment. Her proptosis had increased from 22 mm to 27 mm in the six-month interval. Because of the patient's uncontrolled IOP and increasing proptosis, she was evaluated for detachable balloon embolization of her carotid-cavernous sinus fistula.

The patient underwent embolization of the CCF with one detachable balloon in late January 1984 (Fig. 4A & B). Her visual acuity remained stable, the orbital bruit was no longer heard, the IOP decreased to 20 without medication, and the amount of proptosis decreased to 20 mm on the left side. The patient has remained asymptomatic after discontinuing glaucoma medication for approximately a year and a half.

Case No. 2. A 21-year-old white man sustained extensive head trauma when he was pinned beneath his car as he was working on it. At the time of the accident, his injuries included a basilar skull fracture, a small subdural hemorrhage, and a pneumatocephalus. The patient was left with a best corrected visual acuity of 20/200 in his right eye secondary to optic nerve damage from his canalicular fracture. Two

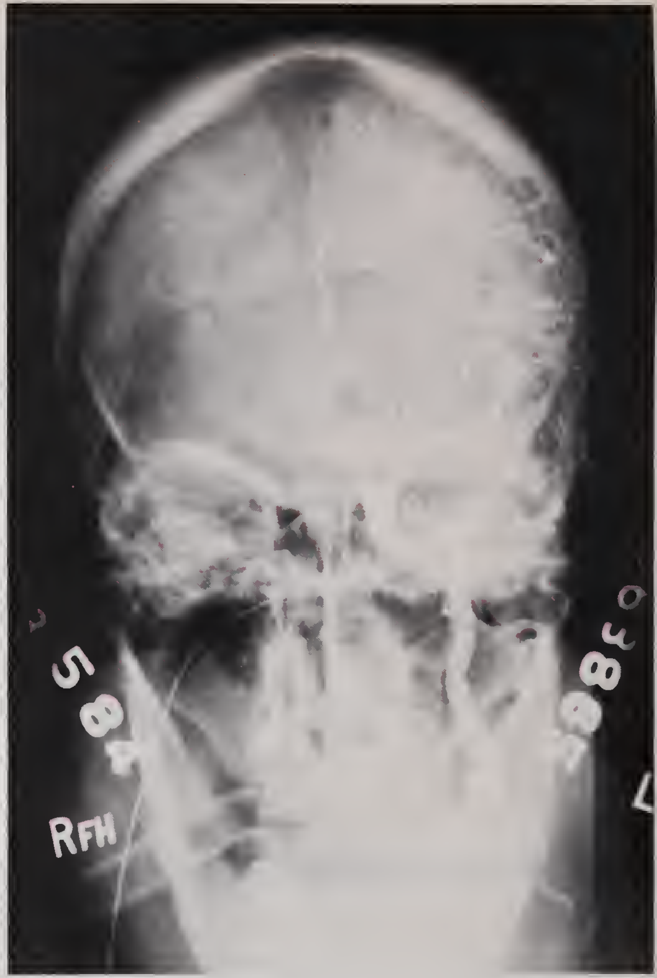

Figure 2A. AP view of left internal carotid angiogram.

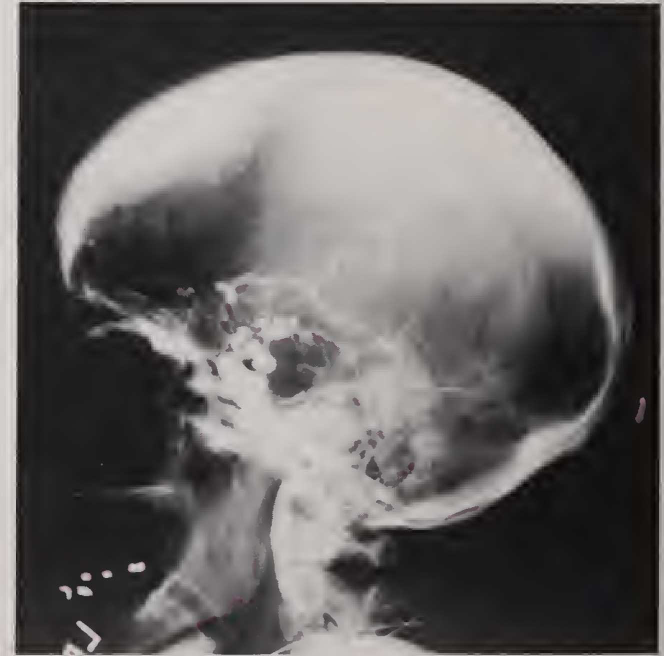

Figure 2B. Lateral view of left internal carotid angiogram. Note left carotid-cavernous fistula with poor intracranial arterial circulation.

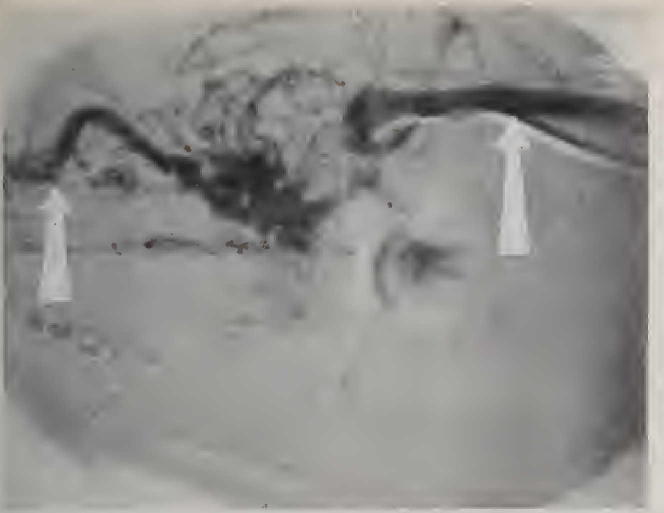

Figure 3. Digital subtraction angiogram of left internal carotid showing CCF and enlargement of superior ophthalmic vein and retrograde circulation into petrosal sinus.

months after leaving the hospital, the patient developed a transient sixth nerve palsy. Six months after discharge from the hospital, he returned to the eye clinic with the chief complaints of a red, swollen eye and a subjective bruit over the right eye. At the time of examination, the patient's best corrected visual acuity was 20/200 OD: 20/15 OS. The episcleral vessels were dilated, and there was a Marcus Gunn pupil on the right. The intraocular pressures were 19 OD and 18 OS, with the rest of the anterior segment examination results within normal limits. Dilated fundus examination showed the cup to disc ratio was 0.2 OU with a pale optic disc on the right. Fundus examination was otherwise normal. Examination with the stethoscope revealed a loud orbital bruit over the right eye.

Again, because of the presenting signs and symptoms, a CCF was suspected. A cerebral angiogram revealed a right CCF (Fig. 5A & B). Over the following two months, the intraocular pressure increased to 20 OD (versus 15 OS), and the amount of proptosis had increased slightly to 4 mm. Because of the patient's bothersome subjective orbital bruit, the increasing proptosis, and increasing intraocular pressure, the patient was evaluated for detachable balloon embolization of his carotid-cavernous sinus fistula.

After the procedure, the patient had resolution of his symptoms for approximately two weeks, when the bruit over the right eye recurred. Repeat angiography showed that the balloon had partially deflated prematurely and had migrated a small distance. Another detachable balloon embolization procedure was performed (Fig. 6A & B), and the patient has remained asymptomatic for approximately 14 months.

Discussion

The classic carotid-cavernous sinus fistula is an arteriovenous communication in the region of the cavernous sinus. The S-shape intracavernous carotid lies

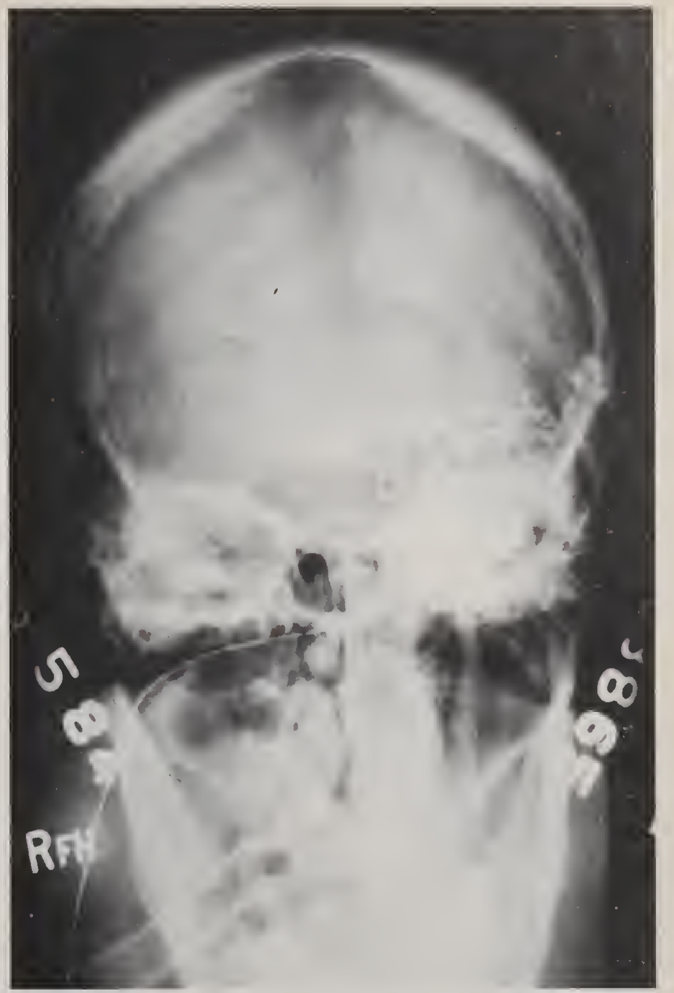

Figure 4A. AP view of left internal carotid angiogram with one balloon in place.

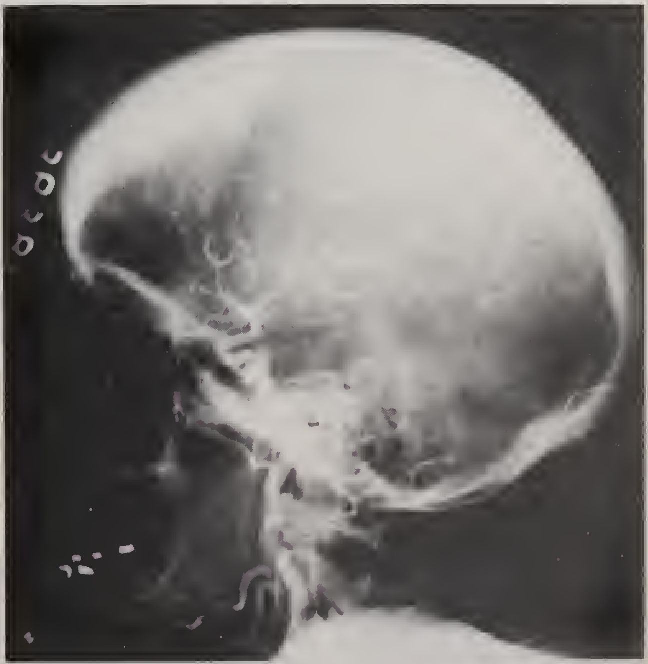

Figure 4B. Lateral view of left internal carotid angiogram with one balloon in place. Note: Total occlusion of the fistula with good intracranial circulation demonstrated.

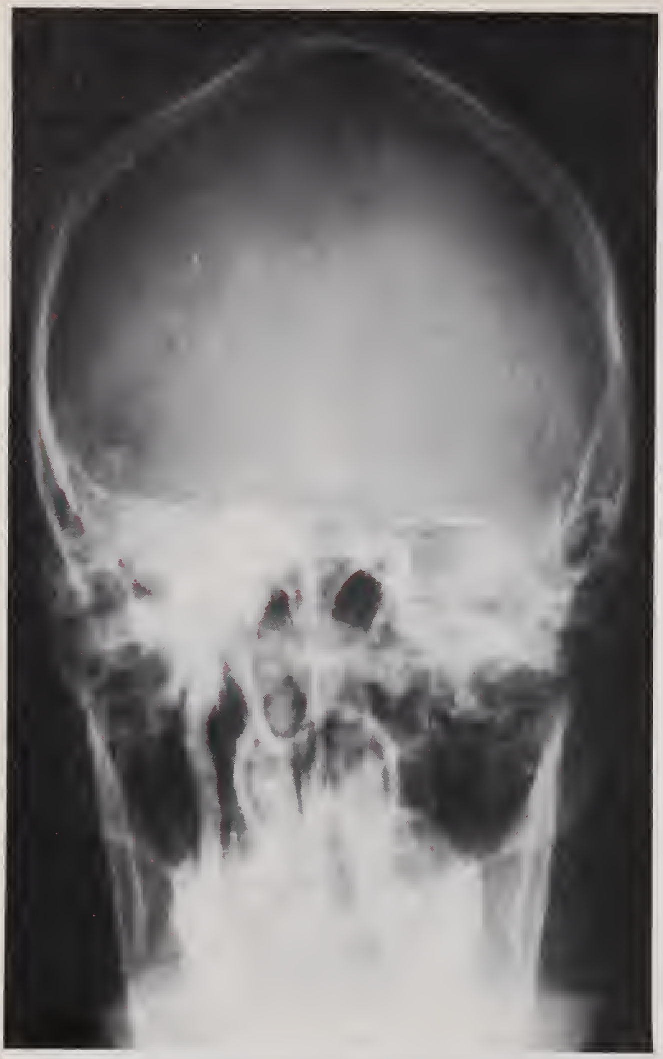

Figure 5A. AP view of right internal carotid angiogram.

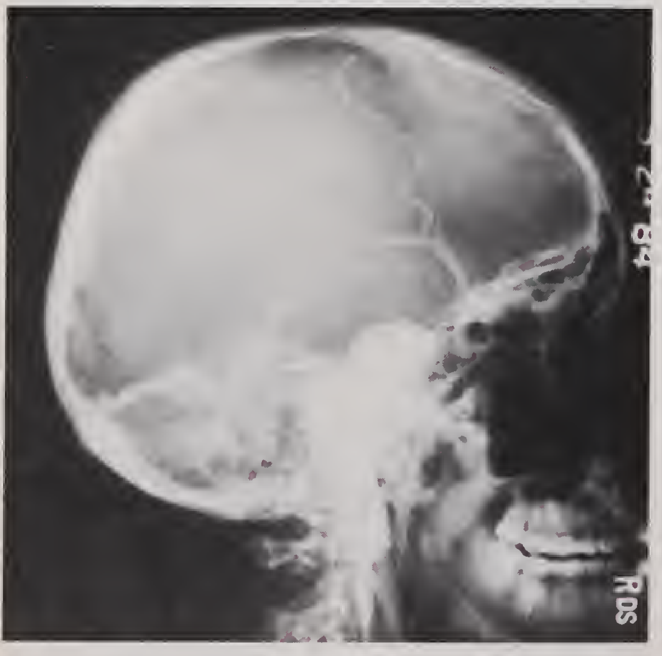

Figure 5B. Lateral view of right internal carotid angiogram. Note large internal carotid-cavernous fistula.

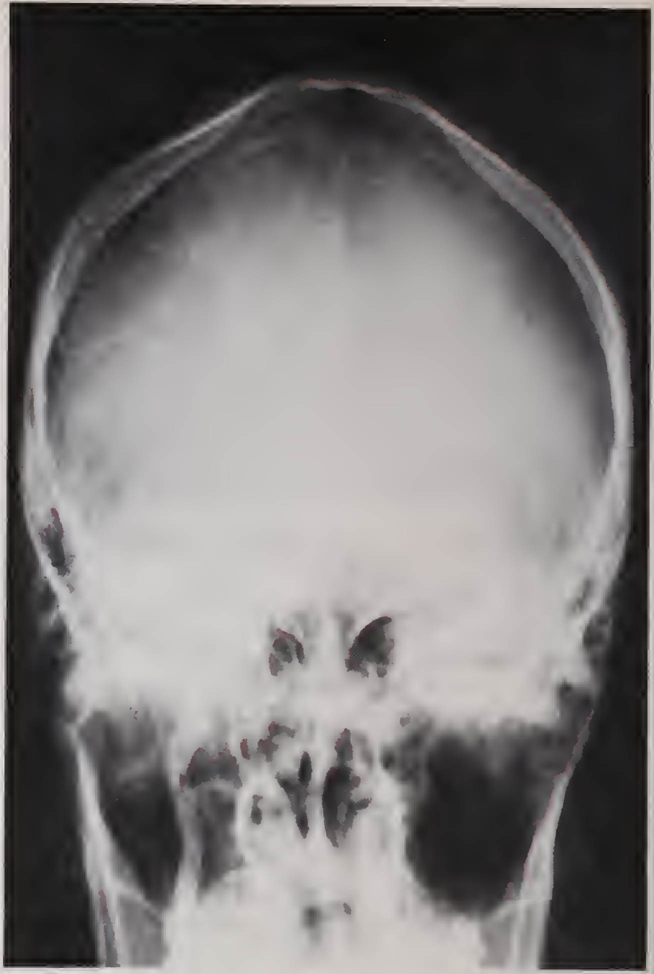

Figure 6A. AP view of right internal carotid angiogram with two balloons in place.

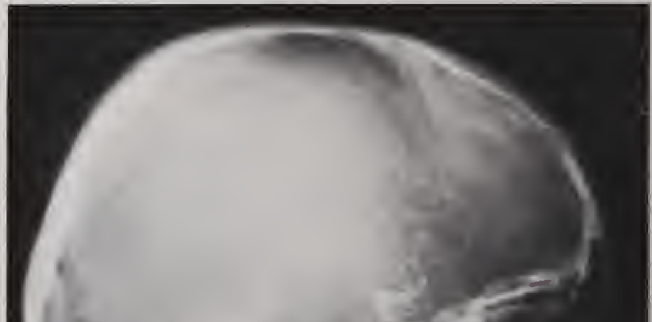

Figure 6B. Lateral view of right internal carotid angiogram with two balloons in place. Note total occlusion of the fistula with preservation of the internal carotid and intracranial circulation.

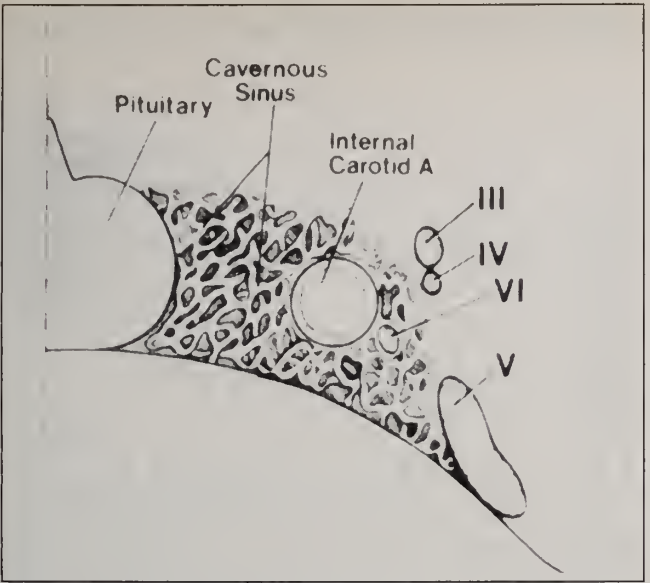

Figure 7. Schematic diagram of cavernous sinus, internal carotid, nerves III, IV, VI and V and their anatomical relationships.

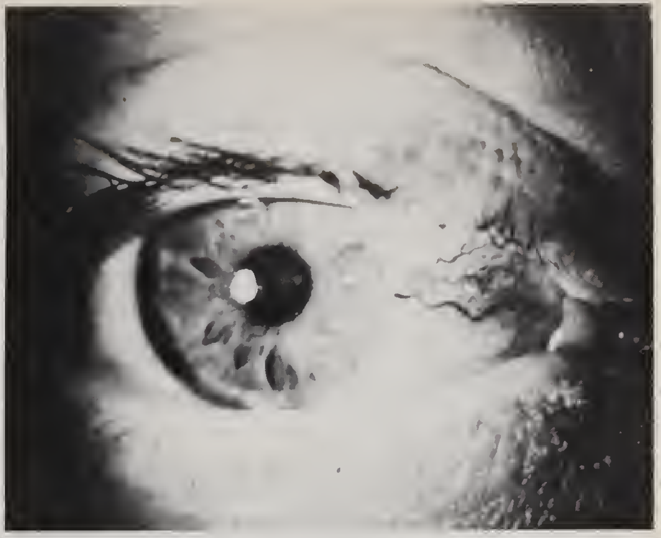

Figure 8. External disease photograph of dilated episcleral veins in CCF.

within a plexus of freely communicating venous channels which comprise this sinus (Fig. 7). The major anterior out-flow to this sinus is the superior ophthalmic vein and its branches. When exposed to a high-pressure arterial system, this vein becomes engorged, producing signs and symptoms of venous congestion.

Carotid-cavernous sinus fistula may be congenital, "spontaneous," or traumatic. Congenital CCF is very rare. The spontaneous fistula is probably atherosclerotic in nature, and occurs in about 25% of cases. Trauma accounts for approximately 75% of all cases.

We suspect that our first patient's lesion was also traumatic in origin, given the patient's history of a basilar skull fracture six months prior to her symptoms' appearance. However, there is also a distinct syndrome in middle-aged women of spontaneous carotid-cavernous sinus fistula involving rupture of small meningeal arteries that supply the dural walls of the cavernous sinus.[5] The signs and symptoms are usually mildly dilated conjunctival vessels, mild proptosis, and mild bruit.

The classic, fully developed syndrome includes pulsating exophthalmos, ocular bruit, diplopia, headache, conjunctival chemosis, increased intraocular pressure, dilated conjunctival vessels, and decreased vision. As mentioned, the clinical features of CCF are related to the increased pressure in the veins normally draining the orbit.

In one large series, the presenting complaints were bruit (75%), proptosis (69%), redness and swelling of the conjunctiva (36%), double vision (24%), visual decrease (16%), headache and orbital pain (16%). Also, because of the major changes in ocular circulation that can occur, several hypoxic ocular sequelae can develop from CCF. These have been noted to include corneal epithelial edema, flare and cell in the anterior chamber, secondary glaucoma, iris rubeosis, cataract, and retinal venous dilation and hemorrhage.[6, 7] Transient sixth nerve palsy, as seen in our second patient, frequently antedates full orbital signs by several months.

The management of carotid-cavernous fistulas is often complicated, and several different methods have been reported in the treatment of CCF. The techniques of intravascular embolization have been rapidly improved, and have become the treatment of choice for CCF. The detachable balloon is used for treatment of internal carotid fistula, and particulate materials are used for external CCF.

Both of our patients had internal CCF and were treated with detachable balloons, which are inflated with slightly hypertonic metrizamide. The valve of the balloon is autosealed after the balloon has been detached from the delivery catheter. This mechanism allows the detached balloon to remain inflated for a long period of time.[8] In our second case, the balloon partially deflated prematurely and migrated slightly, allowing the fistula to recur. The patient required a second embolization procedure. The second balloon has remained inflated, and the fistula has been totally occluded for approximately 14 months.

The long-term delayed effects of this procedure were reported in a series of 74 cases followed over a six-year period. The effects included progressive spontaneous occlusion of the fistula after only partial balloon embolization, false aneurysms created by partial deflation of the balloon decreasing in size and becoming spontaneously sealed off, and transient and persistent third or sixth nerve palsies in about 16% of 74 cases.

Other effects include post-traumatic fibrosis with narrowing of the carotid artery, and migration of the prematurely deflated balloon into the carotid artery or its branch. This premature deflation is probably due to a mechanical defect in the valve of the balloon.[3]

Both of our patients had marked resolution of their ophthalmic signs and symptoms and have remained free of symptoms and complications for approximately 12 and 18 months, respectively, following total occlusion of their CCF.

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The Role of Endocervical Curettage in the Management of Patients with Abnormal Cervical Cytology

Linda Khademol-Reza, M.D., Javier F. Magrina, M.D., and
Nancy Litton, M.D.
Kansas City, Missouri

Endocervical curettage (ECC) is evaluated as a contributing factor in the diagnosis of invasive cervical carcinoma. Although a relatively small number of patients (0.4%) directly benefited from ECC, the procedure helped establish the diagnosis in one third of women found to have an invasive lesion.

Colposcopy has become the standard method of evaluation of patients with abnormal cervical cytology. A complete colposcopic examination should include visualization of the entire transformation zone, both typical and atypical, ectocervical biopsy of abnormal areas, and evaluation of the endocervix with an endocervical curettage (ECC). The contributory value of a positive ECC to the evaluation and management of patients with abnormal cervical cytology depends on (a) diagnosis by conization of invasive lesions not suspected by cytology, colposcopy, or ectocervical biopsies, and (b) diagnosis and excision by conization of endocervical intraepithelial neoplasia with or without coexistent ectocervical intraepithelial neoplasia in the absence of other factors indicating conization. The latter applies to patients with satisfactory colposcopy, and ectocervical cytology and biopsies consistent with Cervical Intraepithelial Neoplasia (CIN). The purpose of this study was to evaluate the contribution of the endocervical curettage in the diagnosis of invasive cervical carcinoma in patients with abnormal cervical cytology treated by conization at our institution.

Materials and Methods

The records of all patients with abnormal cervical cytology evaluated and treated at Truman Medical Center from Jan. 1, 1982, to Dec. 31, 1984, were reviewed. Pregnant patients and those who did not undergo an endocervical curettage were excluded. A total of 392 patients were available for study. The colposcopic procedures were performed by resident physicians under the supervision of a staff physician. In addition to colposcopic examination of the cervix and vagina, repeat cytological sampling, ectocervical biopsy, and endocervical curettage were routinely

Table 1
Colposcopy and ECC Correlation

Colposcopy	*ECC* *Plus*	*Minus*
Satisfactory	19 (55%)	15 (45%)
Unsatisfactory	16 (35%)	29 (65%)

performed. The endocervical curettage was noted as positive or negative, indicating the presence or absence of dysplastic or carcinomatous tissue. Grading of CIN was not given on the endocervical curettings when present. Patients with a positive endocervical curettage, unsatisfactory colposcopy, evidence of microinvasion on ectocervical biopsy, or disagreement between cytologic, histologic and/or colposcopic evaluation, underwent conization. Only patients who underwent conization were considered for study, since the procedure provided accurate ectocervical and endocervical histologic evaluation.

Results

Among the 392 patients, 100 (25.5%) had indications for conization as listed previously. Of these, 44 (44%) had a negative ECC, and 56 (56%) had a positive ECC. Among the latter patients, 21 were lost to follow-up and are excluded from final analysis, thus leaving 35 patients with positive ECC. A total of 79 patients with abnormal cervical cytology who required conization comprise the group for study. Among the 35 patients with a positive ECC, 19 (54%) had satisfactory colposcopy, and 16 (46%) had unsatisfactory colposcopy. Among the 44 patients with a negative ECC, 15 (34%) had satisfactory colposcopy, and 28 (64%) had unsatisfactory colposcopy.

When evaluated by the colposcopy results, 34 patients had satisfactory colposcopy, and 45 had unsatisfactory colposcopy. The number of patients with positive and negative ECC in both groups of patients is shown in Table 1. The results of the conization were correlated with the results of the colposcopy and ECC and are shown on Table 2.

Positive ECC and Satisfactory Colposcopy

Among the 19 patients, one had a diagnosis of microinvasion on ectocervical biopsy, but invasion on the cone specimen. Another patient had negative ectocervical biopsy results, but a positive ECC. Conization showed CIN III. Three patients had colposcopically abnormal transformation zones, ectocervical biopsies revealing CIN, but no abnormalities on the conization specimen. The remaining 14 patients were diagnosed with CIN on ectocervical biopsy, had a positive ECC, and the conization specimen examination also revealed CIN.

Positive ECC and Unsatisfactory Colposcopy

Among the 16 patients, one patient had cytologic and ectocervical biopsy diagnosis of CIN III, a positive ECC, and colposcopic diagnosis of invasion. Conization revealed squamous cell cancer of the cervix. The remaining 15 patients had cytologic, colposcopic, and cone diagnosis of CIN.

Table 2
Correlation of Conization, Colposcopy and ECC Results

	ECC *Positive*		*Negative*	
	Colposcopy			
Conization	*Sat*	*Unsat*	*Sat*	*Unsat*
Negative	3	0	2	4
CIN	15	15	12	25
Invasive/MI	1	1	1	0

Negative ECC and Satisfactory Colposcopy

Among 15 patients, three had ectocervical biopsy diagnosis of microinvasive carcinoma. On conization, one specimen was found to have microinvasion, one CIN III, and the other had no abnormalities.

One patient had colposcopic and ectocervical biopsy diagnosis of CIN, but had no abnormalities on the cone specimen. One patient had a colposcopically abnormal transformation zone consistent with CIN, but ectocervical biopsy suggestive of invasive squamous cell cancer. Conization revealed CIN. The remaining 10 patients had cytologic, colposcopic, and ectocervical diagnosis of CIN on the cone specimen.

Negative ECC and Unsatisfactory Colposcopy

Among the 29 patients, one had a colposcopic diagnosis of CIN, but ectocervical biopsy revealed invasive squamous cell cancer. Cone specimen revealed CIN with no evidence of invasion. Another patient had colposcopic and cytologic diagnosis of malignancy, but ectocervical and cone biopsy revealed only CIN. Four patients had cytologic and colposcopic diagnosis of CIN. Three of them had negative ectocervical biopsy and cone results. The fourth patient had ectocervical biopsy revealing CIN I, but no CIN in the cone specimen.

Cytologic and Ectocervical Biopsies Correlation

All 79 patients who underwent conization were referred because of cervical cytology consistent with CIN. The conization specimen revealed no evidence of CIN or invasion in nine patients, indicating a false positive rate for cervical cytology of 11%.

Colposcopic and Ectocervical Biopsies Correlation

Among the 79 patients who underwent conization because of initial referral for abnormal cervical cytology, all but one (1.2%) had abnormal transformation zones. This patient had a normal transformation zone, but the ectocervical biopsies and conization revealed CIN III. Among the remaining 78 patients, two had a colposcopic diagnosis of invasive cancer. On cone specimen examination, one had in-

Table 3

Patients With Invasive Cervical Carcinoma
(A Review of the Literature)

	Total No. Patients	ECC+ (%)	MIV/INV (%)	ECC+ DX INV (%)
Shingleton et al (1976)	603	95 (15.7)	13 (2.1)	6 (1.0)
Drescher et al (1983)	540	56 (10.4)	12 (2.2)	4 (0.7)
Hatch et al (1985)	2304	385 (16.7)	21 (0.9)	7 (0.3)
Granai et al (1985)	278	51 (18.0)	0 (0)	0 (0)
Reza et al (1985)	392	56 (14.0)	3 (0.8)	0 (0)
	4117	643 (15.6)	49 (1.2)	17 (0.4)

vasive squamous cell cancer, and the other had only CIN. Among the nine patients with negative cones, all had abnormal transformation zones consistent with CIN. The remaining 66 patients had CIN correlated between colposcopy and the conization specimen.

Ectocervical Biopsies and Conization Correlation

Four (5%) of the 79 patients had microinvasion diagnosed on ectocervical biopsy. The conization specimen revealed invasion in one patient, confirmed microinvasion in another, revealed CIN III in a third, and was negative in the fourth patient. Invasion was present on ectocervical biopsy in two patients. Conization revealed only CIN in both patients. Negative ectocervical biopsies were obtained in four patients with cervical cytology revealing CIN. Conization revealed CIN in two, and no anomalies in the other two. Condylomatous dysplasia was present on ectocervical biopsies in seven patients. Conization revealed CIN in six, and no anomalies in one. In the remaining 62 patients (78.5%), histologic and conization diagnosis were in agreement.

Discussion

The purpose of colposcopy is to evaluate and select patients with abnormal cervical cytology for outpatient therapy, thereby reducing the number of conizations. Every effort must be made to insure that an invasive lesion is not missed.

Shingleton[1] addressed the role of endocervical curettage in a study of 603 patients evaluated for abnormal cervical cytology. Eighty-five percent of the patients were treated on an outpatient basis; conization was required in 15%. A positive ECC was noted in 95 (16%) patients. Invasive or microinvasive carcinoma was diagnosed in 13 patients by conization. Ectocervical biopsies had revealed invasion in five, but CIN in the remaining eight. Among the latter eight patients, the ECC had been positive in six. With the assumption that the positive ECC was the only indication for conization, ECC was the only contributory test to the diagnosis of invasive or microinvasive carcinoma in six out of 603 patients (1%) with abnormal cytology.

Drescher et al[2] reviewed the role of the ECC in 540 patients with abnormal cervical cytology. Among patients with satisfactory colposcopy results, 18.1% had a positive ECC, while among patients with unsatisfactory colposcopy, 49.1% had a positive ECC. Invasive or microinvasive carcinoma was diagnosed in 10 (2%) patients. In four of these, cytology, colposcopy, and ectocervical biopsies failed to identify microinvasive or invasive carcinoma, and the diagnosis was made by conization performed on the basis of a positive ECC. Thus, the ECC was the only contributory test to the diagnosis of invasive carcinoma in four (1%) out of 540 patients with abnormal cervical cytology.

In a prospective study[3] of 2,304 patients with abnormal cervical cytology evaluated by colposcopy, ECC and biopsies, invasive carcinoma was diagnosed in 15 patients. The endocervical curettage was the only contributory test to the diagnosis of invasion in seven patients. Thus, the diagnosis of invasive malignancy was established due to a positive ECC in seven (0.3%) out of 2,304 patients. The ECC was found more accurate than ectocervical biopsies in 1.2% of patients with satisfactory colposcopy, in 15.7% of patients with unsatisfactory colposcopy, and in 30.5% of patients with no lesion observed.

Granai et al[4] reported on 278 patients with abnormal cervical cytology evaluated by colposcopy, ECC and biopsies. A positive ECC was present in 51 (18%) patients. None of the patients had an invasive lesion, probably due to the relatively small number of patients in the study.

In the present study, invasive carcinoma was diagnosed in three patients, but ECC was not the only contributory test to this diagnosis. In the third patient, the ECC was negative. All three patients had indications for conization other than a positive ECC.

From a review of the literature, a total of 4,117 patients with abnormal cervical cytology and evaluated by colposcopy, ECC, and biopsies, are available. Only 17 (0.4%) of these patients had an invasive lesion diagnosed as a result of a conization performed because of a positive ECC.

From a different perspective, the diagnosis of invasion was established by conization indicated by a positive ECC in 11 (34.7%) out of a total of 49 patients with invasive cervical carcinoma collected from the literature (Table 3).

It seems that a very small number of patients (0.4%) with abnormal cervical cytology benefited from ECC in regard to the diagnosis of an invasive lesion. However, the diagnosis of invasive cervical malignancy was established in about one third of the patients by conization performed as a result of positive ECC. Until criteria for selection of patients for ECC are identified, it seems the routine use of ECC on patients with abnormal cervical cytology is necessary for identification of a small number of patients with invasive cervical lesions.

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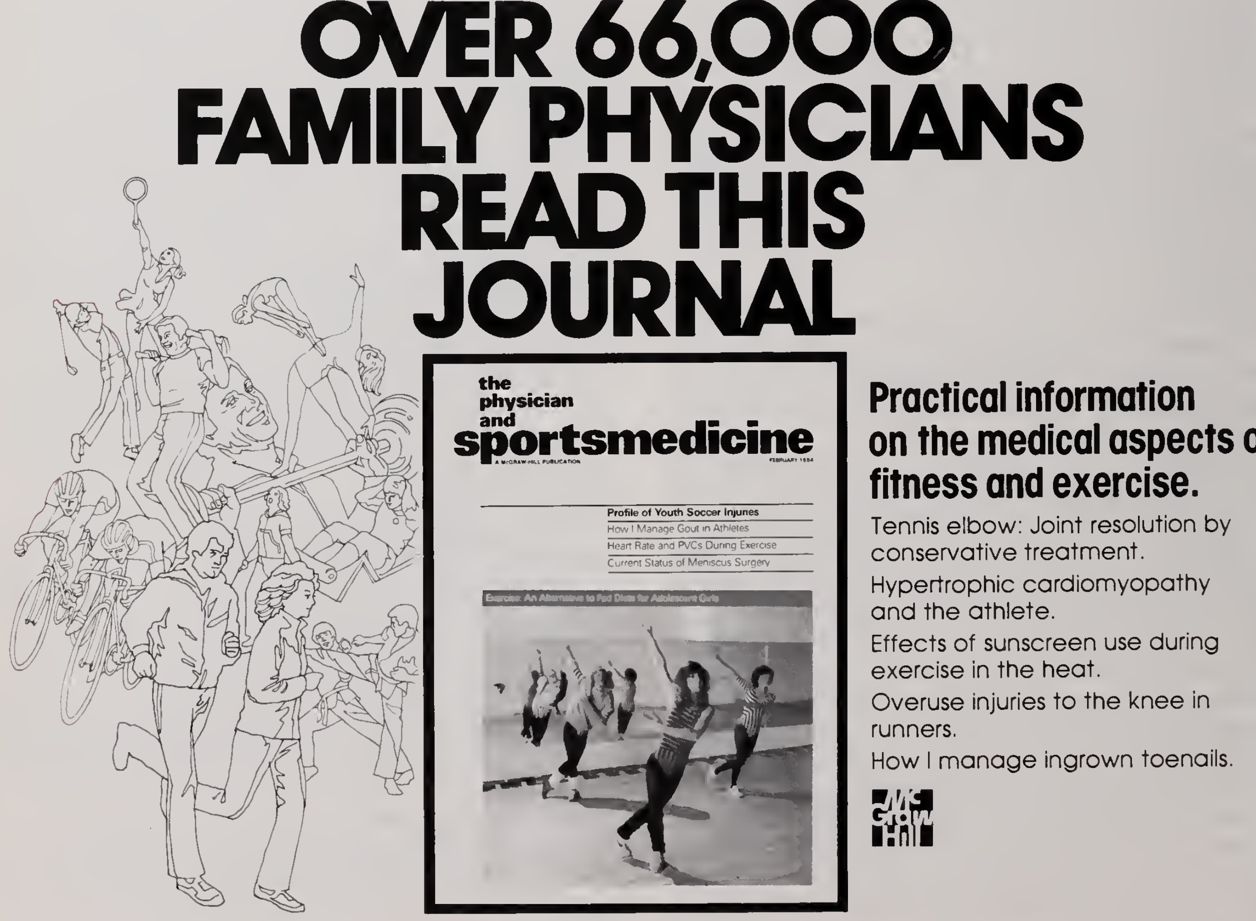

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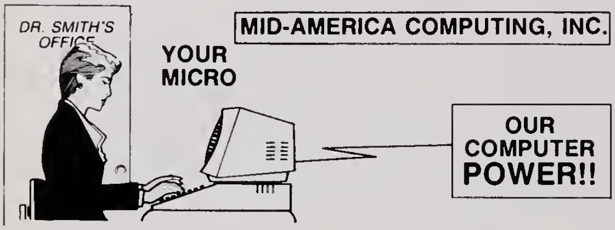
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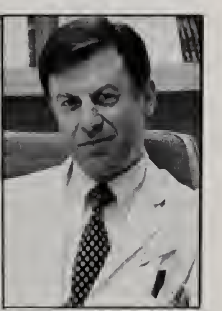
Medical School News

St. Louis University

- A three-year, $320,261 grant has been awarded to **J. Heinrich Joist, M.D., Ph.D.**, professor of medicine and pathology and director of the division of hematology/oncology at St. Louis University School of Medicine. The grant, awarded by the National Heart, Lung, and Blood Institute, is to support continuation of Dr. Joist's research on the effects of blood flow on clotting blood.



The research is being performed in collaboration with **Salvatore Sutera, Ph.D.**, professor of mechanical engineering at Washington University, and **Joan Bauman, Ph.D.**, assistant research professor in the division of hematology/oncology at the School of Medicine.

Dr. Joist is chairman of the research committee of the Missouri Affiliate and St. Louis Chapter of the American Heart Association. He serves on various National Institutes of Health study sections, advisory boards of local and regional medical organizations, and medical center committees, and is a member of the faculty senate at St. Louis University.

- **Govindaswamy Chinnadurai, Ph.D.**, professor of molecular virology, St. Louis University School of Medicine, has been awarded two grants from the National Cancer Institute. The grants, totaling $768,651, are for five-year and three-year periods.

The focus of Dr. Chinnadurai's research is to study how human adenoviruses that are found in the respiratory track convert normal cells into cancerous cells. Specific alterations into the viral cancer genes using recombinant DNA techniques will be done in an effort to understand how viral genes, in conjunction with cellular genes, bring about abnormal growth of the cancer cells.

Dr. Chinnadurai received his doctorate degree in molecular biology from the University of Texas, Dallas. He has been at St. Louis University Medical Center since 1974.

- The Third Annual J. Gerard Mudd, M.D., Lecture was presented January 31 at St. Louis University Medical Center. The guest speaker was **Shahbudin H. Rahimtoola, M.D.**, chief of the section of cardiology at the University of Southern California and a renowned cardiologist whose work has been published in more than 75 books, editorials and articles. Dr. Rahimtoola's presentation was titled, "All That Glitters Is Not Gold: An Appraisal of Clinical Trials," which addressed the problems associated with the assessment of results from clinical studies.

This traditional academic affair commemorates **Gerard Mudd**'s contribution in establishing the cardiac catheterization laboratory at The University Hospital. Dr. Mudd is presently director of the cardiac catheterization laboratory and professor of internal medicine at St. Louis University School of Medicine.

- "Critical Decisions in Clinical Situations" was the title of the First Annual Drummond Lecture in Medical Ethics held February 7 at St. Louis University Medical Center. The presentation focused on decisions which must be made by families and health care professionals relative to patient confinement, removal of life support devices, and the effects of these decisions on the family and health care providers.

The speaker was the **Rev. Ned H. Cassem, S.J., M.D.**, chief of psychiatry consultation, Massachusetts General Hospital. The Rev. Dr. Cassem is also associate professor of psychiatry at Harvard Medical School and serves on the editorial board of *Critical Care Medicine.*

The Drummond Lectures on Medical Ethics honor the **Rev. Edward J. Drummond, S.J.**, who served as the first vice-president of St. Louis University Medicine Center from 1962 until 1973. In 1973 he became executive vice-president of the university and in 1978 he served as president until the **Rev. Thomas R. Fitzgerald, S.J.**, took office in 1979. Rev. Drummond retired in 1979. Nationally recognized as a Jesuit educator, he is currently professor emeritus of education and of English and serves as special assistant to the executive associate vice-president of the medical center.

During his visit to St. Louis the Rev. Dr. Cassem also spoke to 44 primary care physicians on the legal and ethical implications of "do not resuscitate" orders. The doctors were attending a medical continuing education seminar sponsored by St. Louis University Medical Center.

- **Edwin J. Dunn, Ph.D.**, has been named assistant clinical director of the neuropsychology laboratory as well as an outpatient psychotherapist at St. Louis University School of Medicine. Both positions are held in the division of behavioral medicine under the department of psychiatry.

As the assistant director in the neuropsychology laboratory, Dr. Dunn will oversee the evaluations of persons who have had some type of brain dysfunction including head trauma, dementias, learning disorders and brain tumors.

As an outpatient psychotherapist, Dr. Dunn will concentrate on his areas of specialty which are family, marital and sex therapy.

Dr. Dunn earned his doctorate degree in clinical psychology at St. Louis University in 1985. He performed his internship at Rutgers Medical School, Piscataway, N.J., where he worked in community mental health, family therapy and crisis intervention.

- A new type of cardiac pacemaker which responds to body movement by increasing the heart rate is being tested at St. Louis University Medical Center. Currently, most pacemakers maintain a single rate, causing the patient to become tired because his heart rate does not increase with his level of activity.

Thomas A. Buckingham, M.D., instructor of medicine, division of cardiology, St. Louis University School of Medicine, is the principal investigator of the project. The Activitrax pacemaker, manufactured by Medtronic, Inc., will be implanted into the patient's chest. The patient will undergo a treadmill test before and after insertion of the pacemaker to see if the Activitrax increases the patient's exercise capacity. Preliminary results indicate that this type of pacemaker does improve the patient's ability to exercise.

The University of Missouri-Columbia

■ **Jack Colwill, M.D.,** professor and chair of family and community medicine, received a grant renewal of $148,733 from the U.S. Department of Health and Human Services to help provide pre-doctoral training in family medicine.

■ **Catherine Dunn, M.D.,** resident physician in anesthesiology, is the co-author of an article with **David E. Maltry, M.D.,** assistant professor of anesthesiology, and **George W. N. Eggers, M.D.,** professor of anesthesiology. Their paper, "Value of Mass Spectrometry in Early Diagnosis of Malignant Hyperthermia," appeared in the September issue of *Anesthesiology Journal*.

■ **Robert G. Frank, Ph.D.,** assistant professor of physical medicine and rehabilitation, was appointed by Governor John Ashcroft to the Missouri Head Injury Advisory Council. The newly-created group will be responsible for treatment and rehabilitation services for persons with head injuries.

■ **Finley P. Gibbs, Ph.D.,** associate professor of anatomy, is the author of a paper, "Elementary Pharmacokinetics of 3H-Melatonin in Rats," recently published in *Advances in Bioscience*.

■ **William J. Krause, II, Ph.D.,** professor of anatomy, is the co-author of several recently published papers, including two papers written with **Dr. James H. Cutts,** professor of anatomy. They are "Placentation in the Opossum, *(Didelphis virginiana)*," which appeared in *The Anatomical Record*, and "The Allantois of the North American Opossum *(Didelphis virginiana)*," which appeared in *Acta Anatomica*.

■ **W. Turney Williams, M.D.,** resident physician in anesthesiology, is co-author of an article with **Roberta L. Lowry, M.D.,** clinical associate professor of anesthesiology and **George W. N. Eggers, Jr., M.D.,** professor of anesthesiology. Their paper, "Anesthetic Management During Therapeutic Disruption of the Blood/Brain Barrier," appeared in the January 1986 issue of *Anesthesia and Analgesia*.

University of Missouri-Kansas City

■ **Eugene Stead, M.D.,** made two presentations for UMKC School of Medicine during a March 27-18 visit. Dr. Stead, who holds the title of Florence McAllister Professor of Medicine at Duke University, Durham, N.C., spoke March 27 to medical school students and faculty as the Stanley Reitman, M.D., Memorial Lecturer. On March 28, Dr. Stead was the featured speaker at the School's Alpha Omega Alpha (AOA) induction ceremony at the Vista International Hotel.

■ Effective Feb. 17, **Mr. Donald R. Smithburg** was appointed assistant to the Dean/Administration at the School of Medicine. Mr. Smithburg's duties include acting as the chief administrative officer on managerial and staff functions at the medical school, and acting as liaison between the School and Truman Medical Center, the School's primary teaching hospital. Most recently, he was assistant to the chief administrative officer for the city of Albuquerque, N.M. Mr. Smithburg was awarded his Master of Arts in public administration from the University of New Mexico, and his Bachelor of Arts in anthropology from The Colorado College.

■ Fifteen students from UMKC School of Medicine are recipients of Hedgepeth Trust scholarship awards. The Hedgepeth Trust Fund, established by George Hedgepeth, M.D., is for minority students in medical or health-related professional schools. This year's medical school recipients are: **Patricia Allen, Tony Anderson, Gretchen Collins, Lisa Darton, Pam Grant, James Greene, Kerry Greenwood, Mary Jackson, Warett Kennard, Madeline Lemee, Joy McElroy, Olevia Mitchem, Michelle Perez, James Riojas,** and **Daryl Thompson.**

■ Third-year UMKC School of Medicine students **David Kearney** and **Lisa Buchheit** were recently awarded with scholarships from the Southern Medical Association. The association each year makes awards to medical students in the southern region for their first professional year.

■ **Ralph Ringo Coffey, M.D.,** long associated with Hospital Hill and Kansas City General Hospital, the predecessor to Truman Medical Center, died Jan. 28. Dr. Coffey trained more than 30 surgeons in his 1950-1964 teaching career at General Hospital, where he also served as chief of surgery. His contributions to the education of surgeons continue today with the Ralph Ringo Coffey Educational Fund for Clinical Surgery, which he established to stimulate postgraduate instruction of students, interns, residents, and area physicians in general clinical surgical care. Among its uses is a visiting professorship each spring at Truman Medical Center. Dr. Coffey held numerous professional affiliations and appointments during his long and distinguished career. In addition to his work at General Hospital, he was on the staff of St. Joseph Hospital for more than 40 years, and served as attending surgeon at St. Luke's Hospital.

■ **James F. Stanford, M.D.,** recently began as a docent of the School of Medicine's Blue 4 unit. Dr. Stanford, a 1980 graduate of the School of Medicine, also holds appointments as an instructor in internal medicine and a Fellow in infectious diseases at the school and Truman Medical Center (TMC). He trained as an intern and resident with UMKC Affiliated Hospitals for three years, followed by a year as chief resident at TMC.

■ A dialogue with three students was one activity for Nobel laureate **Georges F. Koehler, Ph.D.,** during his recent visit to UMKC School of Medicine. Dr. Koehler, a German researcher who shared the 1984 Nobel Prize for Medicine with two other researchers, was brought to UMKC for a visit by the School of Basic Life Sciences as a University of Kansas City Visiting Distinguished Professor. His dialogue with students **Holly Thacker, Maria deCastro,** and **John Moad** was followed with a luncheon and a tour of the medical school.

■ Approximately 300 students, faculty members, and friends of UMKC School of Medicine gathered Feb. 15 for the School's fourth annual Snow Ball. The semi-formal event, which has quickly caught on as tradition, was held at Kansas City's Woodside Racquet Club.

Washington University

■ Researchers at Washington University School of Medicine are seeking young children to vaccinate against a bacterium that causes meningitis.

During the study, researchers will vaccinate 100 children younger than 7 months against Haemophilus influenzae type b (Hib), a contagious bacterium that is a major cause of meningitis, epiglottitis and other serious diseases in children. The study is funded by the National Institutes of Health and headed by **Dan M. Granoff, M.D.,** professor of pediatrics at the School of Medicine and a physician at Barnes and Children's hospitals, sponsoring institutions of the Washington University Medical Center.

This is the second phase of the study. Last year, 63 children aged 2-17 months were vaccinated; nearly all showed a positive antibody response with no ill side-effects, according to Dr. Granoff. The same results have been achieved in 16 children aged 2-7 months who have already received the vaccine as part of the second phase, he added.

One in 250 children in the United States will develop some form of serious illness from the Hib bacterium by the age of 4. Of those, two-thirds will suffer from meningitis; 5% of the children who contract meningitis will die, and another 20% will develop some type of neurologic handicap. Meningitis is thought to be the largest cause of acquired deafness in children, he notes.

Although an effective vaccine is available for children 24 months and older, most cases of Hib disease occur in children younger than 18 months.

For further information, call **Allan Lenoir, M.D.,** or **Kathy Sheetz, R.N.,** at the Division of Infectious Diseases at Children's Hospital, (314)454-6050.

■ An expert on the influence of solvents on the vestibulo-oculomotor system delivered the first Richard A. and Betty H. Sutter Visiting Professorship in Occupational and Industrial Medicine Monday, Feb. 24, at the Washington University School of Medicine.

Lars M. Odkvist, M.D., Ph.D., associate professor of otolaryngology at Linkoping University in Linkoping, Sweden, spoke on "Vestibular and Oculomotor Disorders Caused by Industrial Solvents."

Dr. Odkvist is a founding member of the Swedish Vestibular Society and has delivered scientific talks about otolaryngology throughout the world. He has authored several publications that concern the central vestibular system, Menieres disease, the influences of solvents on the ventriculo-oculomotor system, and respiratory problems in industry workers and facial palsy.

In addition to his faculty appointment at Linkoping University, Dr. Odkvist is a member of the otolaryngology department at University Hospital in Linkoping.

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New Members

■ **Thon A. Basom, M.D.,** Heartland Hospital West, St. Joseph 65401, has become a member of the Buchanan County Medical Society. Dr. Basom received his preliminary education at the Kansas State University and his medical degree at the University of Kansas Medical Center in 1981. He completed his residency training at St. Luke's Hospital, Kansas City. He specializes in internal medicine.

■ **Steven E. Buie, M.D.,** 5306 Harrison, Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Buie received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1983. He is completing his residency training at the Baptist Medical Center, Kansas City. He specializes in family practice.

■ **Kirk A. Calhoun, M.D.,** 1734 E. 63rd Street, Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Calhoun received his preliminary education at the University of Illinois and his medical degree at the University of Kansas in 1978. He completed his residency training at the Michael Reese Hospital, Chicago. He specializes in internal medicine and nephrology.

■ **Jeremiah E. Crabb, M.D.,** Heartland Hospital West, St. Joseph 65401, has become a member of the Buchanan County Medical Society. Dr. Crabb received his preliminary education at Kansas State University and his medical degree at the University of Kansas School of Medicine in 1979. He completed his residency training at the University of Kansas Medical Center. He specializes in internal medicine.

■ **Quentin Cramer, M.D.,** 9140 Ward Parkway, Kansas City 64114, has become a member of the Jackson County Medical Society. Dr. Cramer received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1943. He completed his residency training at the Kansas University Medical Center. He specializes in internal medicine.

■ **Linda D. Dill, M.D.,** 8604 Chestnut Circle, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Dill received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

■ **Saroj N. D'Souza, M.D.,** 1465 S. Grand, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. D'Souza received her preliminary education at the St. John's Medical College and her medical degree at the St. John's Medical College in 1977. She completed her residency training at the St. Louis University. She specializes in pediatric pathology.

■ **David W. Frantz, M.D.,** 3015 North Ballas Road, St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Frantz received his preliminary education at the University of the South and his medical degree at Tufts University in 1972. He completed his residency training at the Maine Medical Center. He specializes in general surgery.

■ **Kathryn A. Frey, M.D.,** 12812 Tesson Ferry, St. Louis 63128, has become a member of the St. Louis Metropolitan Medical Society. Dr. Frey received her preliminary education at the Newcomb College of Tulane University and her medical degree at the Medical College of Virginia in 1981. She completed her residency training at the St. Louis University Hospital. She specializes in internal medicine.

■ **Joel A. Goebel, M.D.,** 517 South Euclid, Box 8115, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Goebel received his preliminary education at the University of Notre Dame and his medical degree at the Washington University Medical School in 1980. He completed his residency training at the Barnes Hospital, St. Louis. He specializes in otolaryngology.

■ **David R. Gustafson, D.O.,** 16009 E. 31st Street, Independence 64055, has become a member of the Jackson County Medical Society. Dr. Gustafson received his baccalaureate and osteopathic degree at the University of Missouri-Kansas City in 1981. He completed his residency training at the University for Health Sciences, Kansas City. He specializes in family practice.

■ **Tyann G. Hamedi, M.D.,** 10221 Foster, Overland Park, Kansas 66212, has become a member of the Jackson County Medical Society. Dr. Hamedi received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas Affiliated Hospitals. She specializes in internal medicine.

■ **Mark R. Hess, M.D.,** 619 E. 63rd Terrace, Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Hess received his preliminary education at the Catawba College and his medical degree at the East Carolina University School of Medicine in 1985. He is completing his residency training at the University of Missouri-Kansas City School of Medicine. He specializes in emergency medicine.

■ **William E. Houck, M.D.,** 1034 S. Brentwood Blvd., St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Houck received his preliminary education at the Brown University and his medical degree at the University of Cincinnati in 1981. He completed his residency training at the Barnes Hospital. He specializes in obstetrics and gynecology.

■ **Jeffrey F. Hull, D.O.,** Heartland East Hospital, St. Joseph 65401, has become a member of the Buchanan County Medical Society. Dr. Hull received his preliminary education at the Drake University and his osteopathic degree at the Des Moines College of Osteopathic Medicine and Surgery in 1980. He completed his residency training at the University of Iowa. He specializes in anesthesiology.

■ **Sohail Jahal, M.D.,** 3614 Baltimore #1, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Jahal received her preliminary education at the Government College and her medical degree at the King Edward Medical College in 1981. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

■ **Anand G. Kantak, M.D.,** One Hospital Drive, Columbia 65212, has become a member of the Boone County

Medical Society. Dr. Kantak received his preliminary education at the University of Bombay and his medical degree at the University of Bombay in 1974. He completed his residency training at the University of Toronto. He specializes in pediatrics.

■ **Laurence J. Kinsella, M.D.,** 615 S. New Ballas Rd., St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kinesella received his preliminary education at Cornell College and his medical degree at the St. Louis University in 1985. He is completing his residency training at St. John's Mercy Medical Center. He specializes in general surgery.

■ **Kurt R. Knappenberger, M.D.,** Mexico Doctor's Park, Mexico 65265, has become a member of the Audrain County Medical Society. Dr. Knappenberger received his preliminary education at Bethany College and his medical degree at the University of Kansas in 1980. He completed his residency training at the St. Francis Regional Medical Center and Affiliated Hospitals. He specializes in orthopaedic surgery.

■ **Nicholas T. Kouchoukos, M.D.,** 216 S. Kingshighway, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kouchoukos received his preliminary education at the University of Michigan and his medical degree at the Washington University School of Medicine in 1961. He completed his residency training at the Washington University Medical Center. He specializes in general surgery.

■ **Vincent M. Lem, M.D.,** Suite 510, 4320 Wornall Road, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Lem received his preliminary education at Kansas State University and his medical degree at the University of Kansas School of Medicine in 1978. He completed his residency training at the St. Luke's Hospital, Kansas City. He specializes in internal medicine.

■ **James D. Nanson, M.D.,** 1701 East Broadway, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Nanson received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1973. He completed his residency training at the University of Missouri-Columbia Hospital and Clinics. He specializes in internal medicine.

■ **Robert C. Piela, M.D.,** Heartland East Hospital, St. Joseph 65401, has become a member of the Buchanan County Medical Society. Dr. Piela received his preliminary education at Dartmouth College and his medical degree at the University of Massachusetts School of Medicine in 1980. He completed his residency training at the Worchester City Hospital. He specializes in emergency medicine.

■ **Jack V. Rhoads, M.D.,** 12921 Grandview Road, Grandview 64030, has become a member of the Jackson County Medical Society. Dr. Rhoads received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1982. He completed his residency training at the Tulsa Medical College. He specializes in internal medicine.

■ **Robert G. Ricci, D.O.,** 2001 NE Parvin Road, Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Ricci received his preliminary education at San Antonio College and his osteopathic degree at the Kansas City College of Osteopathic Medicine in 1968. He completed his residency training at the Kansas City College of Osteopathic Medicine. He specializes in radiology.

■ **Alvin K. Schergen, M.D.,** 1035 Bellevue Ave., Ste. 316, St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Schergen received his preliminary education at Washington University and his medical degree at the St. Louis University in 1980. He completed his residency training at the St. Louis University Hospitals. He specializes in hematology and oncology.

■ **Edward C. Schuessler, M.D.,** P. O. Box 31696, Des Peres 63131, has become a member of the St. Louis Metropolitan Medical Society. Dr. Schuessler received his preliminary education at the St. Louis University and his medical degree at the University of Missouri-Columbia School of Medicine in 1982. He completed his residency training at Barnes Hospital, St. Louis. He specializes in anesthesiology.

■ **Page A. Smith, M.D.,** 10591 Gillette, Overland Park, Kansas 66215, has become a member of the Jackson County Medical Society. Dr. Smith received his preliminary education at the University of California and his medical degree at the Washington University School of Medicine in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in internal medicine.

■ **George E. Speer, D.O.,** Heartland Hospital, St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Speer received his preliminary education at the University of Kansas and his osteopathic degree at the University of Kansas City College of Osteopathic Medicine in 1977. He specializes in emergency medicine.

■ **Lee M. Steinberg, D.O.,** 2001 NE Parvin Road, Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Steinberg received his preliminary education at Ohio State University and his osteopathic degree at the Kansas City College of Osteopathic Medicine in 1974. He completed his residency training at the Doctors Hospital. He specializes in radiology.

■ **Christine Sullivan, M.D.,** 8604 Chestnut Circle #3, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Sullivan received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1985. She is completing her residency at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in emergency medicine.

■ **David S. White, M.D.,** 2007 Crestridge, Columbia 65201, has become a member of the Boone County Medical Society. Dr. White received his preliminary education at Antioch College and his medical degree at the Washington University in 1978. He completed his residency training at the University of Missouri. He specializes in family practice.

■ **Genevieve N. Wong-Berberich, M.D.,** 3033 Puckett Rd., #5, Kansas City, Kansas 66103, has become a member of the Jackson County Medical Society. Dr. Wong-Berberich received her baccalaureate and medical degree from the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

New Student Members

St. Louis University
Kim A. Porterfield

University of Missouri-Columbia
F. Andrew Abele
William S. Adams
Julie A. Alford
Christopher R. Andrew
Laurie Behm
James R. Biddle
Faye C. Cohen
William A. Cass
V. Kent Cooper
James G. Corwin
John L. Ditto, Jr.
Gary DuMonteer
D. Todd Hammond
Todd A. Horwitz
Scott Howe
Paul R. Johnson
Lawrence M. Katz
Timothy J. Kutz
Paul L'Ecuyer
Margaret K. McLeod
Patricia J. Ritchie
William E. Roland
Ronald P. Rumpf
Robert E. Schroeder
William Slattery
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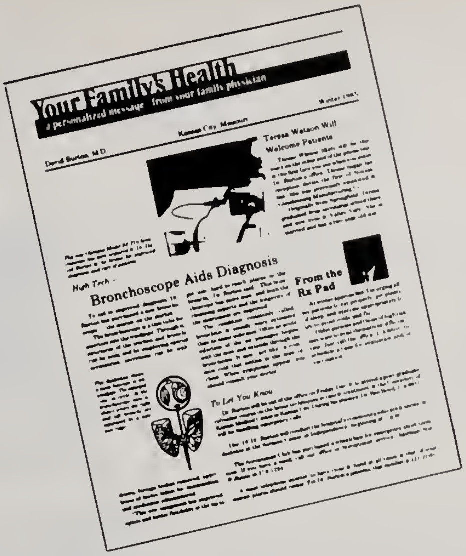

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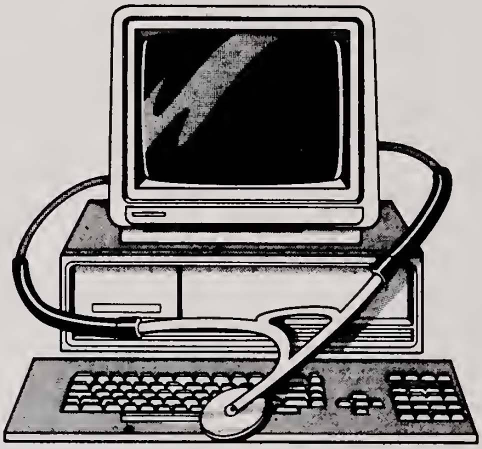

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April

10-11 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

10-11 **Fourth Annual Conference on Alzheimers** — Location: Tan-Tar-A Resort, Lake of the Ozarks. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

10-12 **Pediatric Ophthalmology and Strabismus — 1986 International Symposium** — Location: Kansas City. Contact: David Braverman, M.D., Truman Medical Center, 2301 Holmes St., Kansas City 64108. 816-556-3501.

11 **Fourth Annual Trauma Seminar** — Location: Holiday Inn, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

12 **Introduction to Laser Therapy in Gynecology** — Location: University Hospital at St. Louis University Medical Center. Contact: St. Louis School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

14 **Leroy Sante Lecture** — Location: St. Louis University. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

17-18 **Fourth Annual Conference on Alcholism** — Location: Breckenridge Hotel, St. Louis. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

17-18 **Microcomputer Jungle: Impact on Health Care** — Location: Doubletree Hotel, Overland Park, Kansas. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

18-20 **Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, MA215 Health Sciences Center, Columbia 65212. 314-882-4105.

21-23 **Surgery of the Paranasal Sinuses** — Location: St. Louis University Learning Resources Center. Contact: Anita Herbst, CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis 63104. 314/577-8167.

22-27 **Thirty-sixth Annual Postgraduate Symposium on Anesthesiology** — Location: Crown Center Hotel, Kansas City, Missouri. Contact: Carole Rosen, Promotions Coordinator, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

24-25 **Thirteenth Annual Symposium on Obstetrics and Gynecology** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

25 **Pediatric Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25 **What's New in Diabetes?** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: The Ex Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

25-26 **Arthritis Conference** — Location: University of Missouri-Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

25-26 **Primary Pediatrics Conference** — Location: Columbia, Missouri. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, M240 Health Sciences Center, Columbia 65212. 314-882-4105.

26 **Pediatric Extremity and Spinal Deformities: Principles and New Trends** — Location: Children's Hospital at Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-10 **Adult Children of Alcoholics** — Location: Lester E. Cox Medical Center. Contact: Dick Dillon, Lester E. Cox Medical Center, 1423 N. Jefferson Ave., Springfield, MO 65802. 417/836-3269.

9-10 **Symposium on Rectal and Anal Cancer** — Location: Jewish Hospital at Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, MA215 Health Sciences Center, Columbia 65212. 314-882-4105.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

13-14 **Infection Control: How Do We Live with AIDS?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

17 **First Annual Anesthesia Symposium** — Location: St. Louis. Contact: Christian Hospital, Anesthesia Dept., 11133 Dunn Rd., St. Louis 63136. 314/355-2300, ext. 5022.

17 **Annual Spring Scientific Seminar on Pathology** — Location: Rieke Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

22-23 **Group Skills for Human Service Workers** — Location: Lester E. Cox Hospital, Springfield. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

6-7 **First Annual Pediatric Conference** — Location: University of Missouri-Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

6-7 **Annual Update in Pediatrics** — Location: St. Louis Embassy Suites Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

July

10-13 **Fifth Annual Summer Medical Symposium: "Medicine for the Practicing Physician"** — Location: Broadmoor Hotel, Colorado Springs, Colo. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913/588-4480.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

September

5 **Primary Care Update** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

24 **The Office Treatment of Hypertension** — Location: St. Louis Sheraton Westport Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

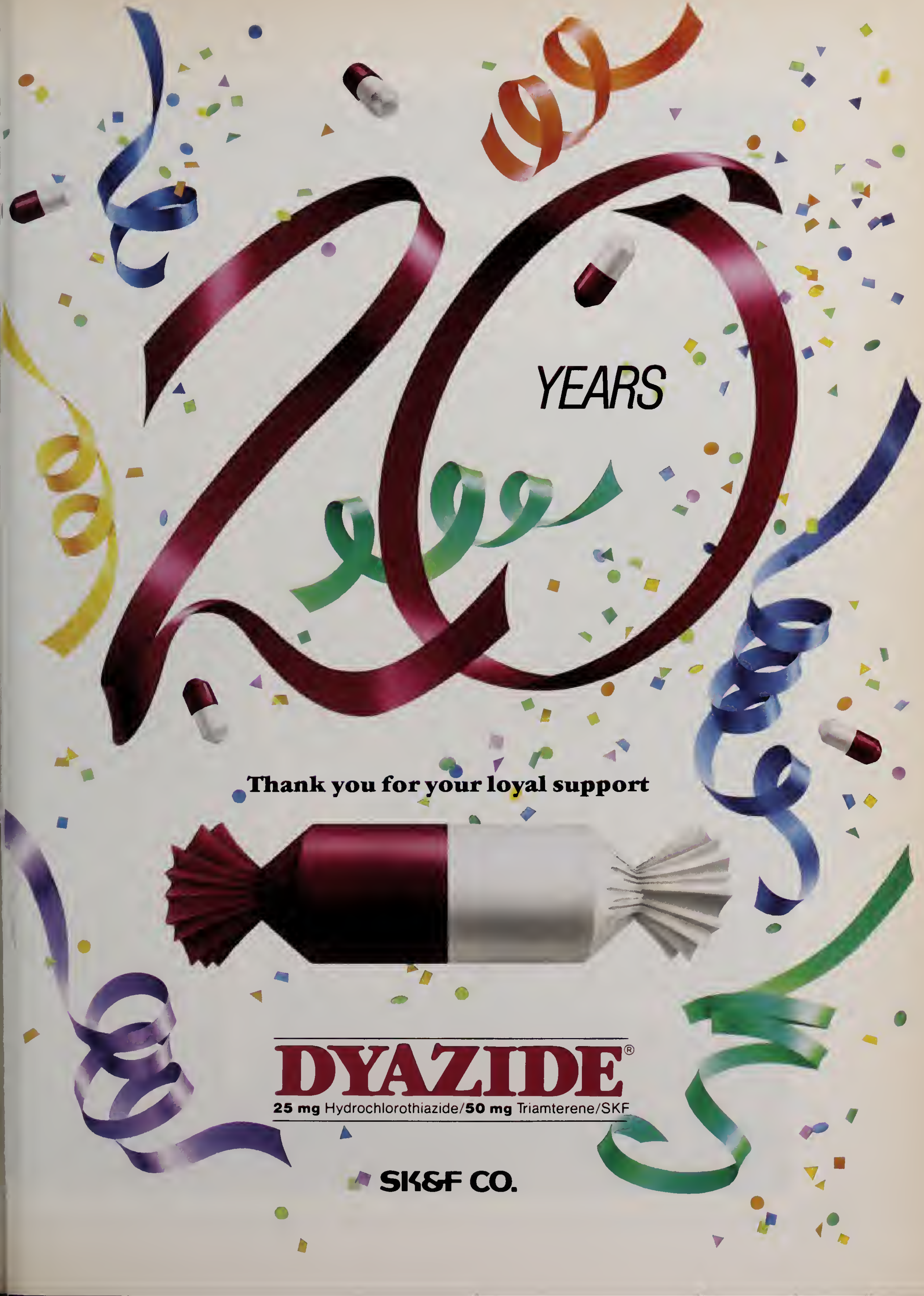
24-26 **Two-Dimensional Doppler Echocardiography** — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

29-30 **Missouri Perinatal Association Clinical Conference** — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

October

1 **Psychiatry** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.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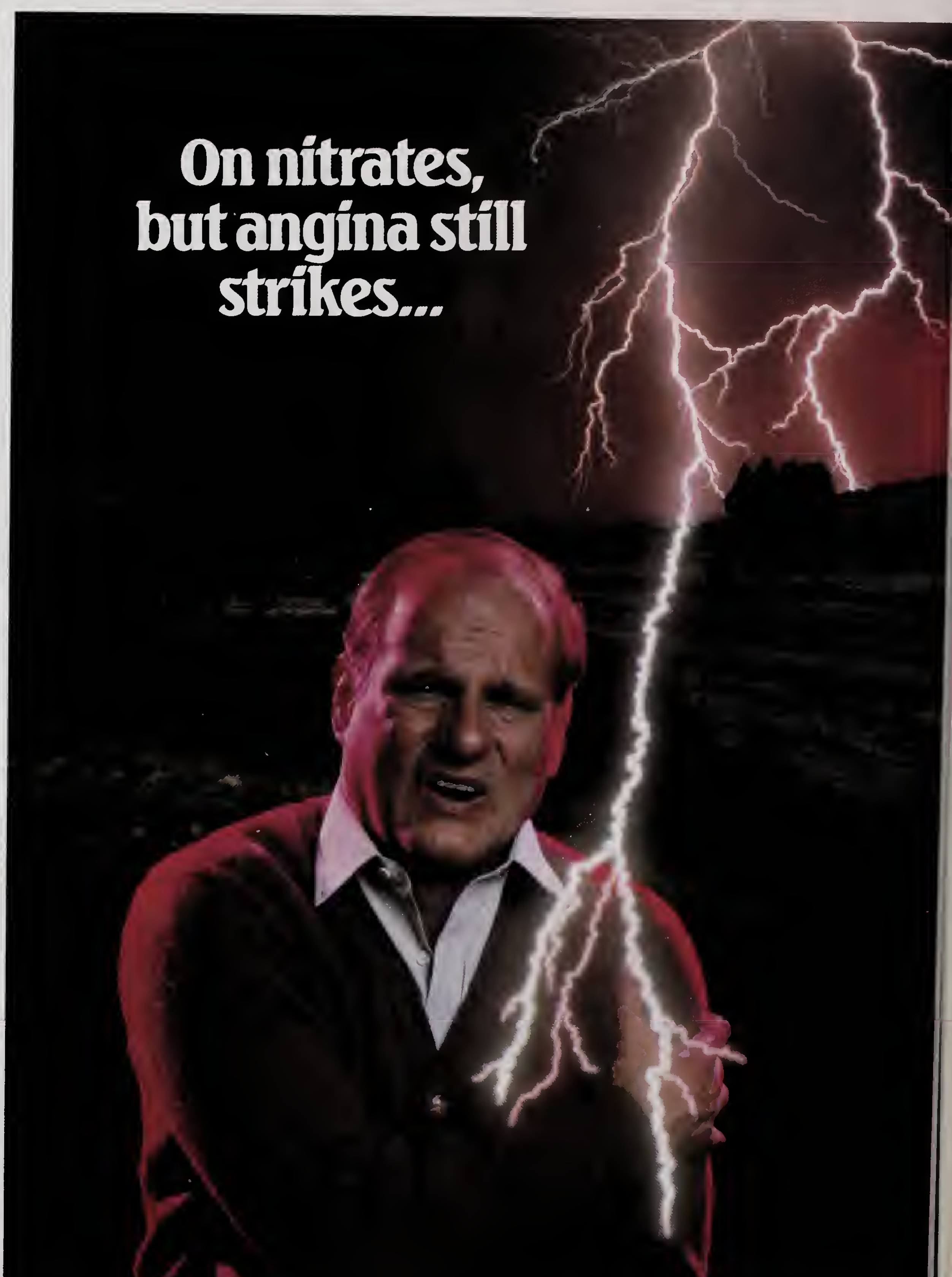
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Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. 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One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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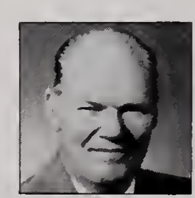

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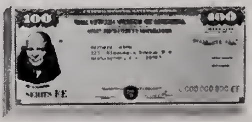

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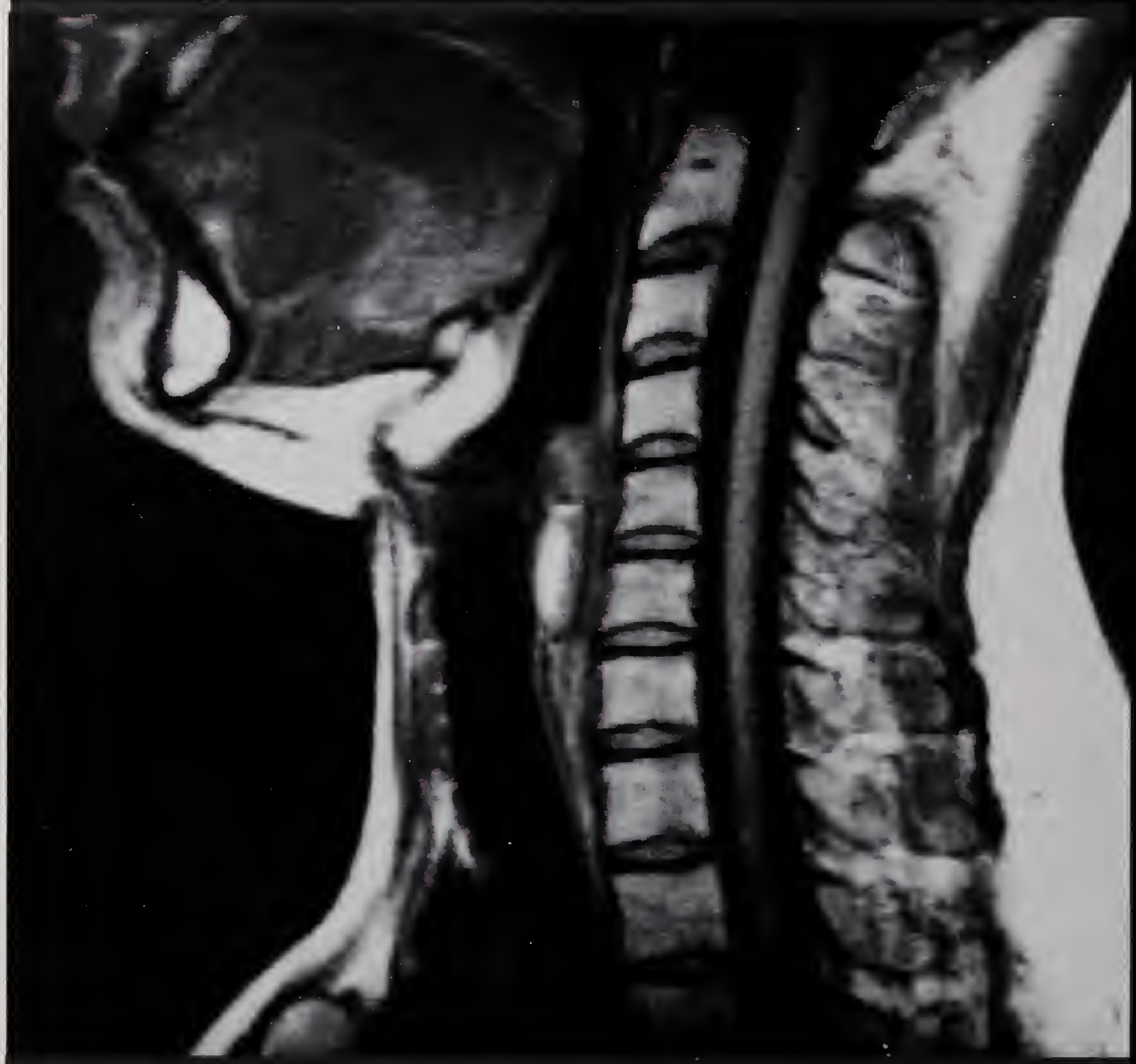

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Physician's Recognition Awards

Twenty-nine MSMA members qualified for the MSMA-AMA Physician's Recognition Award during January 1986. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Butler-Wayne-Ripley-Carter

Tai-Yong Chung, *Poplar Bluff*

Cape Girardeau

James R. Dzur, *Cape Girardeau*
Jerry L. Kinder, *Cape Girardeau*
Thomas A. Lovinggood, *Cape Girardeau*
Robert B. Russell, *Cape Girardeau*
Debra S. Smithson, *Cape Girardeau*

Greene

Earl D. Russell, *Springfield*

Jackson

John S. Crie, *Kansas City*
Gregory L. Hartman, *Kansas City*
Mordecai Kopperman, *Kansas City*
James P. LaBach, *Kansas City*
Carl F. Strauss, *Kansas City*
Gerald M. Woods, *Kansas City*

Jefferson

Maria C. Albano, *Crystal City*

Mineral Area

Robert F. Dettmer, *Ironton*

Northeast

Hiremathada Jayanandaiah, *Hannibal*

Pettis

Robert S. Foster, *Sedalia*

St. Louis

Donald F. Bandle, *St. Louis*
Sae R. Choi, *St. Louis*
John E. Hironimus, *St. Louis*
Harry L. S. Knopf, *Clayton*
Chester P. Lynxwiler, *St. Louis*
David E. Perkins, *St. Louis*
Michael B. Rumelt, *St. Louis*
Ravindra V. Shitut, *St. Louis*
Herman Shyken, *Clayton*
William K. Sullivan, *St. Louis*
Paul H. Young, *St. Louis*

West Central

Mark A. Ediger, *Harrisonville*

In Memoriam

- **Daniel Aks, M.D.,** 6724 Troost, Suite #210, Kansas City 64131; graduate of the University of Colorado, 1954; member of the Jackson County Medical Society; age 57; died Feb. 2, 1986.
- **Paul L. Barone, M.D.,** 716 South Main, Nevada 64772; graduate of Facolta di Medicina e Chirurgia dell 'Universita di Napoli, Italy, 1936; member of the West Central Missouri Medical Society; age 83; died Feb. 12, 1986.
- **Ralph R. Coffey, M.D.,** 5211 Wornall Rd., Kansas City 64112; graduate of the University of Colorado, 1925; member of the Jackson County Medical Society; age 86; died Jan. 28, 1986.
- **Leo P. Fitzgerald, M.D.,** Bethesda Home, 9645 Big Bend, St. Louis 63122; graduate of St. Louis University, 1923; member of the St. Louis Metropolitan Medical Society; age 90; died Feb. 1, 1986.
- **James Murphy, M.D.,** 1210 Brownell, St. Louis 63122; graduate of St. Louis University, 1938; member of the St. Louis Metropolitan Medical Society; age 73; died Jan. 12, 1986.
- **William L. Tomlinson, M.D.,** 15049 Claymoor Court, Apt. 7, Chesterfield 63017; graduate of Washington University, 1940; member of the St. Louis Metropolitan Medical Society; age 71; died Feb. 3, 1986.
- **John S. Ziegelmeyer, M.D.,** 40 N. Kingshighway, St. Louis 63108; graduate of St. Louis University, 1922; member of the St. Louis Metropolitan Medical Society; age 89; died Jan. 25, 1986.

Information for Contributors

Articles are accepted for publication on condition that they are contributed solely to this journal. Material appearing in Missouri Medicine is protected by copyright.

Manuscripts should be submitted to the editor, Jordan W. Burkey, M.D., P.O. Box 1028, 113 Madison, Jefferson City, Mo. 65102. The transmittal letter should designate one author as correspondent and include his address and telephone number.

In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

Manuscripts

Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the back. Legends should appear on a separate sheet.

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Reprints

Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

Editorials

Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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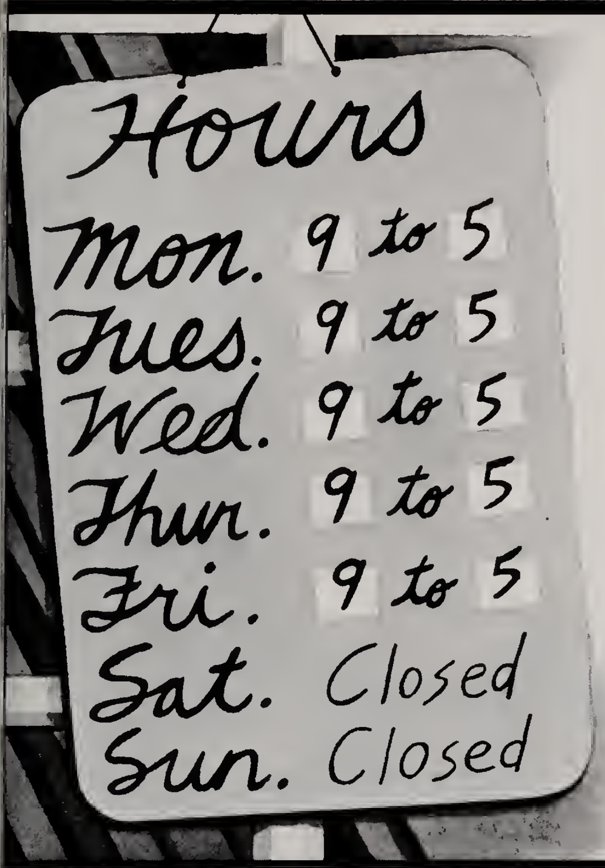

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This Date in Medical History

APRIL

Compiled by Pasquale Accardo, M.D.
St. Louis

2

1893 New York physician Robert Buchanan is found guilty of murdering his wife Annie with morphine; he used atropine to conceal the pinpoint pupils. Defense lawyer and former physician William O'Sullivan with the assistance of Dr. Victor Vaughan destroyed the prosecution's toxicology case, but the accused was unfortunately allowed to testify in his own behalf.

5

1827 Joseph Lister, Scottish surgeon and discoverer of the antiseptic principle in surgery, was born. "Subtract his professional and scientific activities from his life and literally there is nothing of any moment to record." (Kenneth Walker) His father, Joseph Jackson Lister (1786-1869), had developed the achromatic lens of the modern microscope (1830). He is eponymously remembered in two bacterial genera, Listerella and Listeria, and a mouthwash.

1899 Alfred Blalock, American surgeon who in 1944 helped Helen Taussig perform the first "blue baby" operation, was born.

6

1726 First published use of obstetrical forceps by William Gifford, surgeon and man-midwife.

1886 Walter Edward Dandy, Missouri neurosurgeon who invented ventriculography while a chief resident, was born. Dandy-Walker syndrome is hydrocephalus secondary to atresia of the foramen of Magendie.

10

1755 Christian Friedrich Samuel Hahnemann, German founder of homeopathy, was born. This system of medicine is based on the principle of similia similibus — many diseases can be cured by the administration of very small amounts of drugs which produce a condition similar to the disease. More traditional medicine is described as allopathy, and is based on the principle of contraria contrariis.

12

1955 The outcome of the Salk vaccine trials is announced by the National Foundation of Infantile Paralysis at the University of Michigan. After almost half a million children were vaccinated, several hundred vaccine related cases of polio, 150 paralyzed children and 11 deaths resulted.

13

1872 An American general practitioner, George Huntington (1850-1916), at the age of 22 publishes a concise description of hereditary chorea in the *Medical and Surgical Reporter of Philadelphia.*

14

1787 Pierre Charles Alexandre Louis, French physician, was born. His greatest influence was as a teacher especially with his American students. He pioneered in the Numerical Method, the application of basic statistics to clinical observations. He was the first to use a watch to time the pulse. "My name is Pulse-feel: A poor doctor of physick." (Brome, *City Wit*)

18

1775 Joseph Warren, successful Boston physician and political activist, sends Paul Revere and William Dawes on their famous midnight ride; he then took an active part in the next day's fighting. He later declined the post of Physician General and was elected Major General of Militia. He was killed at Bunker Hill.

19

1910 The first successful treatment of syphilis with Paul Ehrlich's "magic bullet," compound "606."

20

1775 The Medical Department of the American Army is formed the day after the Battle of Lexington.

24

1678 Sir George Wakeman, Catholic physician to Queen Katherine, the wife of Charles II, is charged with high treason in plotting to murder the king. The infamous Titus Oates testifies to witnessing the plot at a Jesuitical convention on the 24th of April.

1769 George Armstrong opens the first dispensary for the infant poor. He is credited with one of the earliest descriptions of pyloric stenosis.

25

1792 The first use of the guillotine, a medically humane invention.

26

1829 Christian Albert Theodore Billroth, German surgeon and anatomist, was born. He was the father of modern intestinal surgery. Billroth's cords refer to the arrangement of sex cells in the developing ovary. "It is quite correct to distinguish between medical science and the physician's art."

27

1887 George Thomas Morton, son of the pioneer of anesthesia, performs the first appendectomy.

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* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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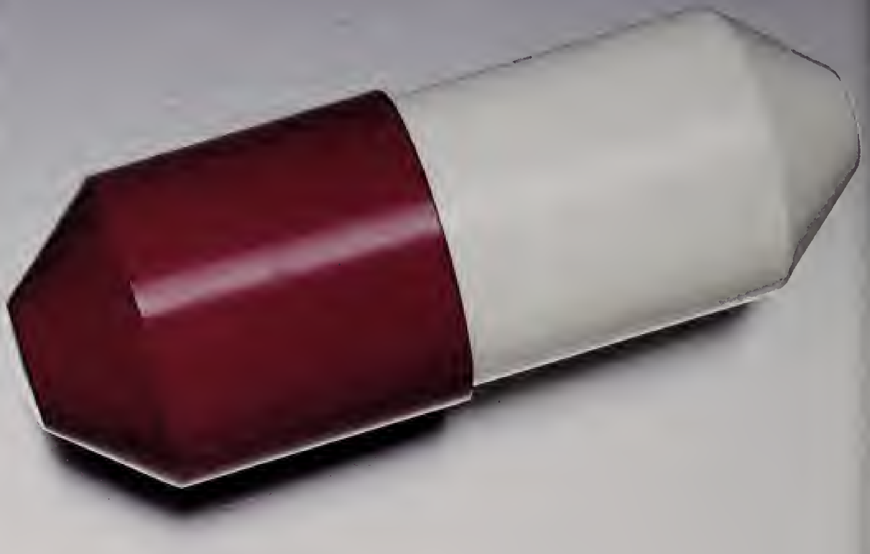

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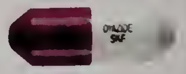

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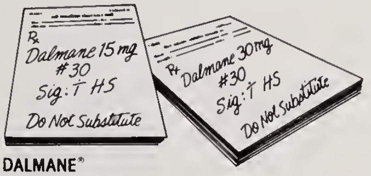
References: **1.** Kales J, *et al: Clin Pharmacal Ther 12* 691-697, Jul-Aug 1971. **2.** Kales A, *et al. Clin Pharmacal Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al. Clin Pharmacal Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Sac 27*.541-546, Dec 1979. **6.** Dement WC, *et al: Behav Med*, pp 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychapharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al:* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984 **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacal Ther 21*.355-361, Mar 1977.



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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia Consider potential additive effects with other hypnotics or CNS depressants Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported Also reported headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, *e g* . excitement, stimulation and hyperactivity

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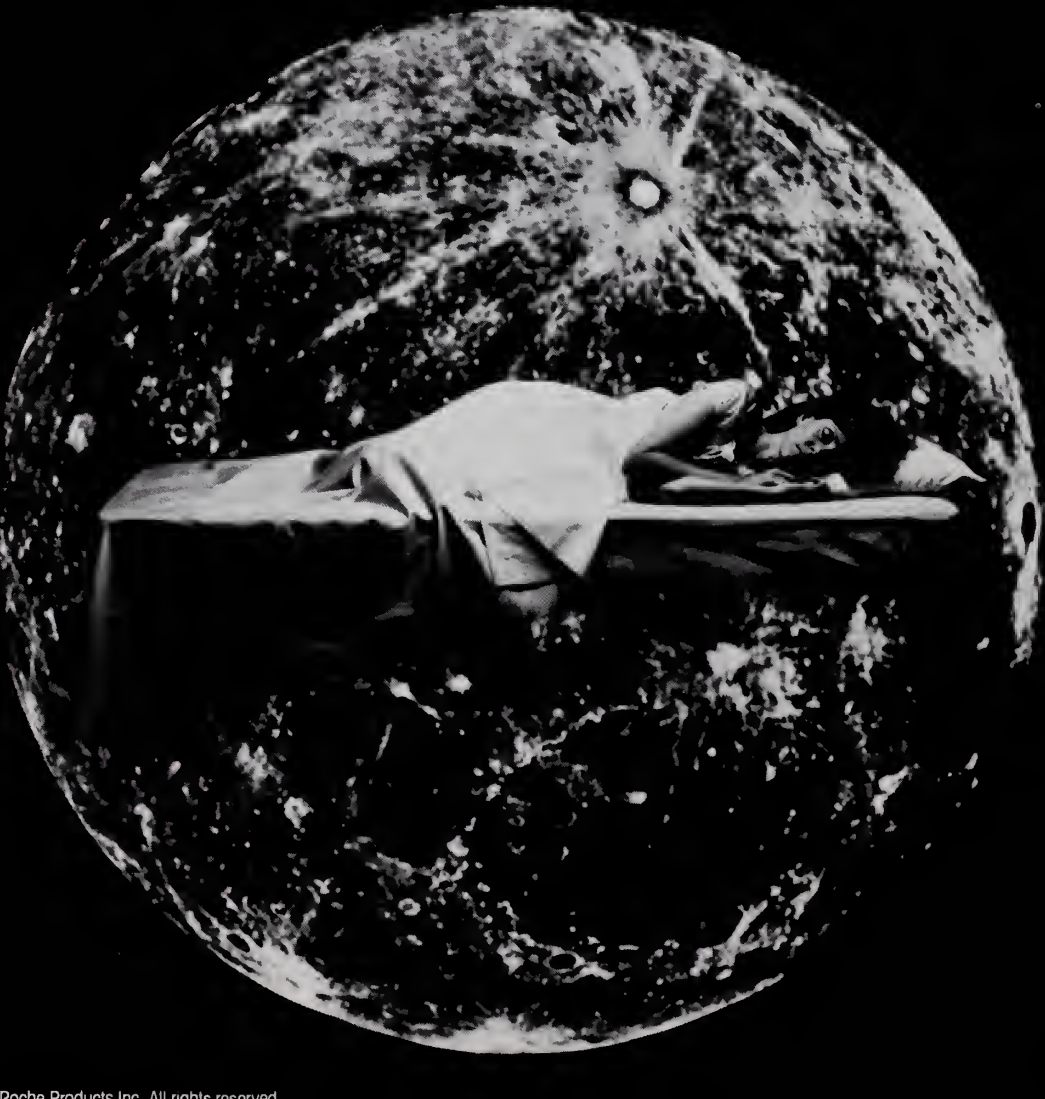

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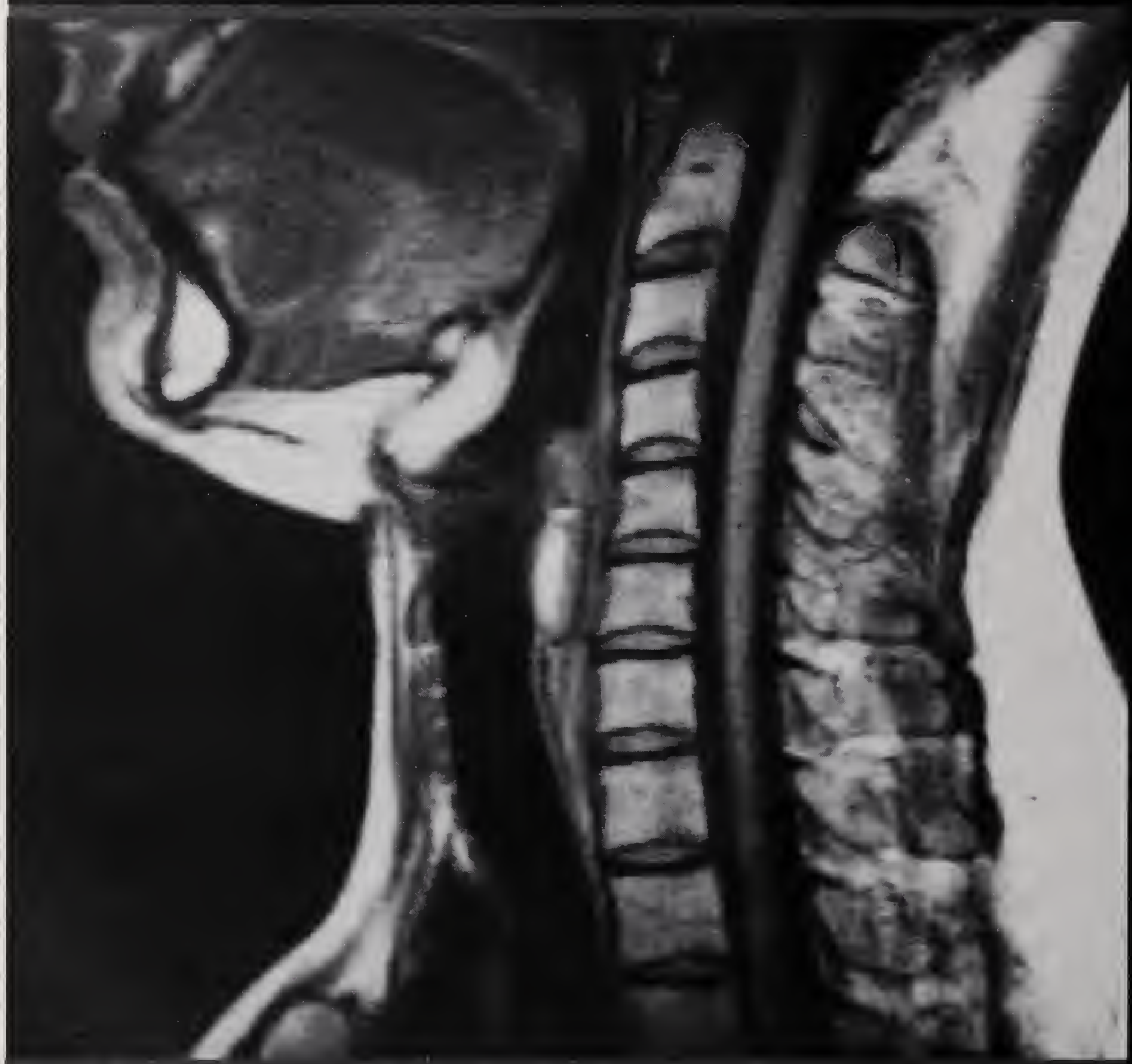

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Missouri Department of Health	314/751-2335
Missouri Department of Social Services	314/751-2086
Missouri Patient Care Review Foundation	*(Preadmission)* 1-800-392-8060 *(General Info)* 1-800-392-1312
Missouri State Bureau of Narcotics and Dangerous Drugs	314/751-8042
Missouri State Board of Registration of the Healing Arts	314/751-2334

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100 South Brentwood, First Floor
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Call Collect: (314) 725-9690

Unification fails; dues increase passes at Annual Convention

After considerable debate on the floor of the MSMA House of Delegates, the delegates voted down a controversial "unified membership" proposal by a vote of 99 for to 87 against. The measure, which required a constitution and bylaws change, needed two-thirds approval for passage.

The action took place during the 128th Annual Convention of the Missouri State Medical Association, April 3-6, in St. Louis.

Through the passage of a resolution introduced by the MSMA Council, the Association has been directed to develop an Association-sponsored IPA/HMO for the benefit of members and to report on this plan to the membership as soon as possible.

The House of Delegates also unanimously approved a dues increase for the Association, effective 1987. The new dues schedule will be $300 per year for active members; $150 per year for physicians in their first year of practice; and $20 per year for junior members (residents). A separate resolution which passed will make dues for medical students $8 per year. Currently, students are not assessed for MSMA dues.

While presenting the case for passage of the dues increase, proponents of the measure pointed out that the average dues for all state medical associations is $292 annually while MSMA dues are $150. In addition to dues, 11 states have had special assessments in the past two years ranging from $50 to $300 to fund tort reform drives. Even the larger component medical societies in Missouri have considerably higher dues than MSMA.

In addition, those favoring the proposal indicated that while the MSMA has 6,800 members and employees 14 people (seven executive and seven clerical), other state associations with memberships between 3,900 and 6,700, have an average of 29 employees. Moreover, the Association is facing its first budgeted deficit this year ($122,000).

In other actions, the House adopted each of the following resolutions:

☐ **AMA Policy Regarding Abortion** — requires the MSMA to request to the AMA that the AMA return to its pre-1970 stand on abortion that states, "The AMA is neither for nor against abortion."

☐ **MSMA officer visitations** — requires that the MSMA president, president-elect and chairman of the MSMA Council attend at least one meeting of a Missouri component medical society during his/her term of office and that each component medical society be visited at least once each year by one or more of the three aforementioned MSMA officers or their proxies.

☐ **Missouri PRO** — requires the MSMA to reiterate to HCFA that quality care should be provided to the aged and that this care should not be compromised by detrimental rules and regulations.

☐ **Right to know** — encourages all third party payors to provide an easily understandable explanation of their benefit coverage to their policyholders.

☐ **State Board of Registration for the Healing Arts Financing** — directs the MSMA to urge the Department of Economic Development, the Governor's office and the Missouri General Assembly to consider modifying the budgetary process to assure that budget proposals of the State Board of Registration for the Healing Arts be approved as presented, so long as the expense of such proposals does not exceed monies which are then available to the Board's dedicated fund.

☐ **Aggressive stand on optometry** — directs the MSMA and the Missouri Ophthalmological Society to develop, for the benefit of patients, a long-range legislative plan to statutorily restrict optometrists from the practice of medicine.

☐ **Action to counteract AIDS panic** — requests the AMA to use all means available to assist in countering the rumors and misinformation which have created an atmosphere of near panic about AIDS.

☐ **Funding for medical student delegate to AMA** — the MSMA will give $1000 to each of the medical school component societies to use in sending delegates to the annual and interim meetings of the AMA Medical Student Section.

☐ **Improved safety for schoolchildren on school buses** — the MSMA recommends that special criteria for the licensing of school bus operators be established.

☐ **Due process for expropriated earned income** — encourages the Missouri legislature to pass a law requiring that any organization, agency or other third party who, after-the-fact, denies a medical provider payment must provide upon request, within 30 days, all information regarding the procedures, guidelines, criteria, processes and qualifications that enabled them to take away the medical provider's earned income.

☐ **Graduate medical education requirement for medical licensure** — endorses the AMA's policy that all applicants for full and unrestricted licensure be required to provide evidence of satisfactory completion of at least one year of an accredited program of graduate medical education in the United States.

A complete report on all the activities of the House of Delegates and other events during this year's Annual Convention will be given in the July issue of *Missouri Medicine.* ■

Seminar teaches effectiveness in political campaigns

A seminar, "So You Want to Make a Difference in Elections — Here's How," has been scheduled for Wed., June 4, 1986, at the Jefferson City Ramada Inn for MSMA and Auxiliary members.

The day-long seminar will be presented by Susan Bryant, president of Research/Strategy/Management, Inc., a Washington-based political consulting firm. Among the major clients of the firm in 1984 were the Reagan-Bush Committee and the re-election campaigns of House Minority Leader Bob Michel (R-Illinois) and Senate Budget Committee Chairman Pete Domenici (R-New Mexico).

For more information or reservations for the seminar, call or write MSMA, P.O. Box 1028, Jefferson City, MO 65102. 314/636-5151.

Optometry bill moves closer to final approval

A bill which would permit optometrists to use therapeutic drugs, House Bill 1333, has moved a step closer to becoming state law. At the time of this writing, the bill, which was approved last month by the House of Representatives, was reported "do pass" out of the Sentate Miscellaneous Bills Committee on April 15.

The bill next moves to the floor of the full Senate for a vote. If it passes there, it moves to the Governor's desk for his signature.

With the Session drawing to a close (April 30), both houses of the General Assembly were scrambling to finish business. Action on some medically-related issues included:

☐ **Senate Bill 540,** which would provide for registration of physician assistants, was defeated by the Senate.

☐ **Senate Bill 533,** which would license social workers, was amended to include language that would permit the practice of lay midwifery in Missouri. The bill passed the Senate and was to be considered by the House.

☐ **House Bill 1386,** which would license respiratory therapists, was passed by the House and moved to the Senate.

☐ **House Bill 1181,** which would require hospitals to inform the families of potential organ donors about the methods for making such donations, was passed by the House.

☐ **House Bill 1036,** which would allow the Board of Healing Arts to issue temporary licenses to visiting professors teaching in Missouri schools and facilities, passed the house and moved to the Senate Governmental Affairs Committee.

☐ **House Bill 1029,** which would allow the Board of Healing Arts to automatically revoke the license of a physician convicted of a felony, was passed by both houses and sent to the Governor.

☐ **House Bill 1125/1127,** which would establish a Task Force on Alzheimer's Disease, passed the Senate and was sent to the Governor. ■

MOSI kicks off project to save eyesight of elderly

With a proclamation signed by Missouri Governor John D. Ashcroft, the Missouri Ophthalmological Society, Inc. (MOSI), began its work with the National Eye Care Project (NECP) on March 31. The project centers on a special Helpline telephone number and is designed to bring medical eye care to the nation's needy elderly.

In the first week alone, more than 1,100 calls were placed, making Missouri's program the busiest in the nation.

The NECP offers ophthalmic care to U.S. citizens and legal residents age 65 and older who have medical eye problems, but who do not have or cannot afford an ophthalmologist.

By calling the toll-free Helpline, 1-800-222-EYES, the elderly may obtain medical care at no out-of-pocket cost. Information on eye diseases will be sent to every person who calls the number. If someone requests medical attention for an eye problem and only has Medicaid for insurance, the ophthalmologist will accept Medicaid as payment in full. If the patient has no medical insurance coverage, the patient will not be charged for medical treatment.

The NECP is sponsored by the Foundation of the American Academy of Ophthalmology and the Missouri Ophthalmological Society, Inc. The project is supported by voluntary donations from ophthalmologists and from gifts from firms associated with medical eye care.

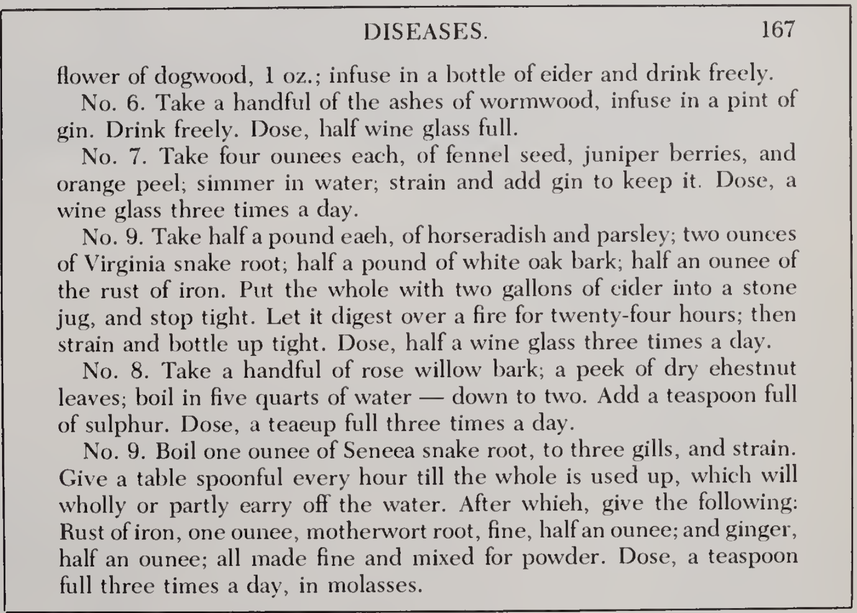
It is estimated that half of all blindness is preventable if eye diseases are detected and treated early. The elderly are particularly vulnerable to eye disease. People over 65 constitute approximately 11% of the U.S. population, but more than 50% of blindness occurs in this group. ■

EDITOR'S DESK

by Jordan W. Burkey, M.D.

The medications and treatments of today stem from these crude beginnings, and the dream drugs and procedures of tomorrow will be based on what we know and use today.

Simple beginnings lead to complex cures



DISEASES. 167

flower of dogwood, 1 oz.; infuse in a bottle of cider and drink freely.

No. 6. Take a handful of the ashes of wormwood, infuse in a pint of gin. Drink freely. Dose, half wine glass full.

No. 7. Take four ounces each, of fennel seed, juniper berries, and orange peel; simmer in water; strain and add gin to keep it. Dose, a wine glass three times a day.

No. 9. Take half a pound each, of horseradish and parsley; two ounces of Virginia snake root; half a pound of white oak bark; half an ounce of the rust of iron. Put the whole with two gallons of cider into a stone jug, and stop tight. Let it digest over a fire for twenty-four hours; then strain and bottle up tight. Dose, half a wine glass three times a day.

No. 8. Take a handful of rose willow bark; a peck of dry chestnut leaves; boil in five quarts of water — down to two. Add a teaspoon full of sulphur. Dose, a teacup full three times a day.

No. 9. Boil one ounce of Seneca snake root, to three gills, and strain. Give a table spoonful every hour till the whole is used up, which will wholly or partly carry off the water. After which, give the following: Rust of iron, one ounce, motherwort root, fine, half an ounce; and ginger, half an ounce; all made fine and mixed for powder. Dose, a teaspoon full three times a day, in molasses.

We all take pride in the way we practice medicine, and Dr. Abel Tennant of New York state was undoubtedly proud of his treatments when he wrote *Practice of Medicine* in 1837, promoting the above and other *American Remedies* to the physicians and to the public of that time.

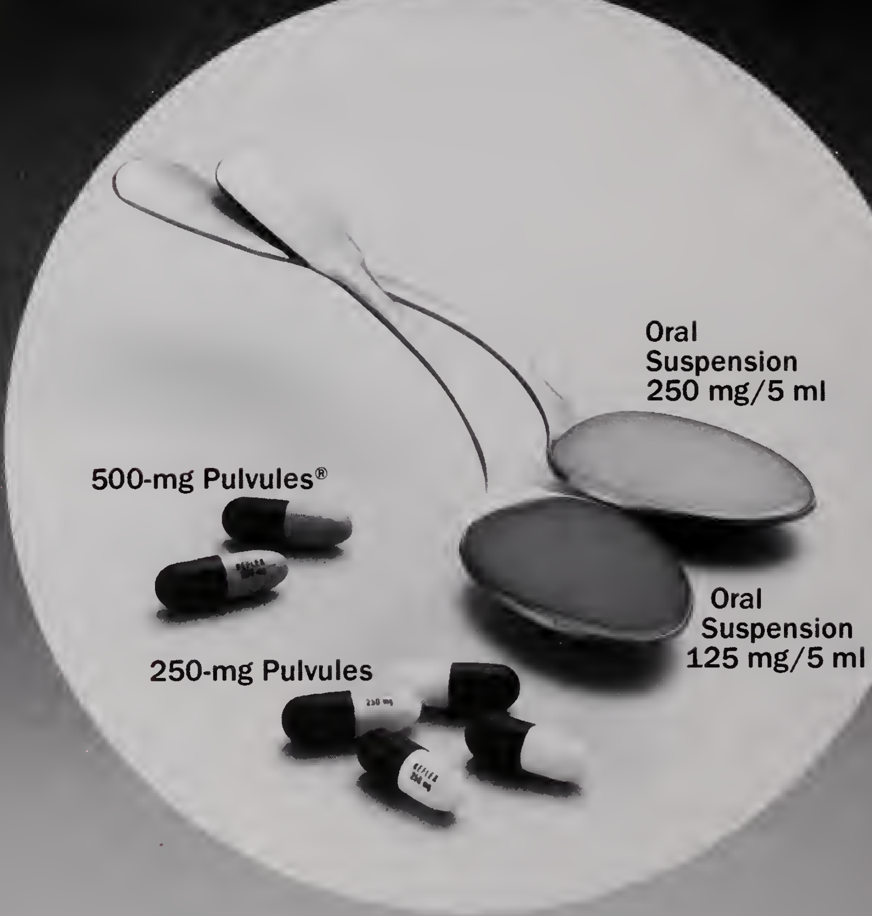
These particular formulae were among dozens advocated for "Universal Dropsy"; hundreds of pages of similar concoctions for other ills were also presented to help people live further into the 19th century. Understanding this, several observations might be made. If the patient knew his white oak bark from his rose willow bark he could brew the medicine himself. And by making up a couple of gallons at a time, he wouldn't have to rush down to the corner apothecary for a refill. Also, a choice was given; if No. 7 didn't work too well, stir up a batch of No. 8 and try it. (The two "No. 9" recipes indicate that proofreading goofs are nothing new). One can picture a heated academic discussion over the comparative benefits of Virginia and Seneca snake roots. It is noted, incidentally, that gin and cider seem to be important ingredients in many of the remedies.

So now it's 150 years later — how far have we come medically? Gin and cider may be out but Lydia Pinkham and Geritol of recent vintage could supply much of the same glow. Rust of iron has gone by the wayside, but can we brag on our use of multiple vitamins or the wonder drug of the mid-20th century — Vitamin B-12?

Perhaps what is more unsettling to consider is what will the physician of two Halley's Comet visits from now think of the quaint practices of the 1980s. Will patients in the year 2136 be taking 15 different pills from the doctor, as was

Continued on page 258

Easy To Take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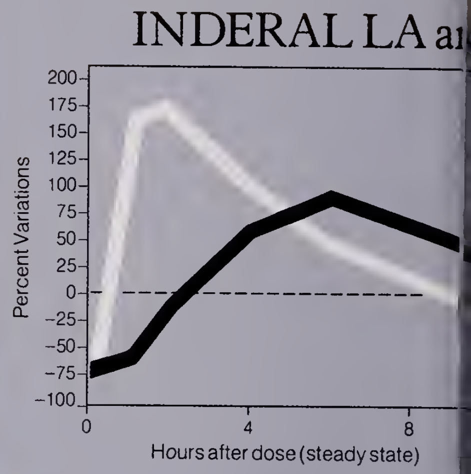

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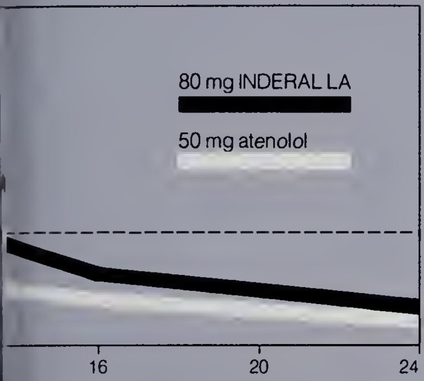
enolol over 24 hours*[1]



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CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol.

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs.

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL. Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs, such as reserpine should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: Propranolol is excreted in human milk. Caution should be exercised wh propranolol is administered to a nursing mother.

PEDIATRIC USE. Safety and effectiveness in children have not been established.

Hydrochlorothiazide: GENERAL: Periodic determination of serum electrolytes to det possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrol imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and ur electrolyte determinations are particularly important when the patient is vomiting excessively receiving parenteral fluids. Medication such as digitalis may also influence serum electrolyt Warning signs irrespective of cause are: Dryness of mouth, thirst, weakness, lethargy, drowsine restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hy kalemia can sensitize or exaggerate the response of the heart to the toxic effect of digit (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassi supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, exc under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may oc in edematous patients in hot weather; appropriate therapy is water restriction, rather than admi tration of salt, except in rare instances when the hyponatremia is life-threatening. In actual depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiaz therapy.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabe mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diur therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland v hypercalcemia and hypophosphatemia have been observed in a few patients on prolon thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, b resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued bef carrying out tests for parathyroid function.

DRUG INTERACTIONS: Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy pati Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not suffic to preclude effectiveness of the pressor agent for therapeutic use.

PREGNANCY: Pregnancy Category C. Thiazides cross the placental barrier and appear in c blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed aga possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytope and possibly other adverse reactions which have occurred in the adult.

NURSING MOTHERS: Thiazides appear in human milk. If use of the drug is deemed esser the patient should stop nursing.

PEDIATRIC USE. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotens paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Rayn type.

Central Nervous System: Lightheadedness, mental depression manifested by insom lassitude, weakness, fatigue, reversible mental depression progressing to catatonia; vi disturbances; hallucinations; an acute reversible syndrome characterized by disorientatior time and place; short-term memory loss; emotional lability, slightly clouded sensorium; decreased performance on neuropsychometrics.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, co pation; mesenteric arterial thrombosis; ischemic colitis.

Allergic: Pharyngitis and agranulocytosis; erythematous rash; fever combined with aching sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis; nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reporte

Miscellaneous: Alopecia; LE-like reactions, psoriasiform rashes; dry eyes; male impotence; Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the serous membranes, and conjunctivae reported for a beta blocker (practolol) have not b associated with propranolol.

Hydrochlorothiazide:

Gastrointestinal: Anorexia; gastric irritation, nausea, vomiting, cramping, diarrhea, constipa jaundice (intrahepatic cholestatic jaundice); pancreatitis, sialadenitis.

Central Nervous System. Dizziness, vertigo; paresthesias, headache; xanthopsia.

Hematologic: Leukopenia; agranulocytosis, thrombocytopenia; aplastic anemia.

Cardiovascular: Orthostatic hypotension (may be aggravated by alcohol, barbiturates narcotics).

Hypersensitivity: Purpura, photosensitivity; rash, urticaria, necrotizing angiitis (vascu cutaneous vasculitis); fever; respiratory distress, including pneumonitis; anaphylactic reactior

Other: Hyperglycemia; glycosuria, hyperuricemia, muscle spasm; weakness; restlessn transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduce therapy withdrawn.

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1. Data on file, Ayerst Laboratories. **2.** Ravid M, Lang R, Jutrin I: The relative antihyperter potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern* 1985;145:1321-1323. **3.** Sumiye L, Vivian AS, Frisof KB, et al: Potassium loss associated hydrochlorothiazide versus chlorthalidone. *Clin Ther* 1981,4:308-320. **4.** Ram CVS, Garrett Kaplan NM. Moderate sodium restriction and various diuretics in the treatment of hyperten *Arch Intern Med* 1981,141:1015-1019

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Often colleagues of impaired physicians are unwilling to speak up due to misguided loyalty or fear of being sued for libel.

Conspiracy of silence adds to doctors' ills

The Impaired Physician Committee of the MSMA (recently renamed the Physician Rehabilitation Committee), chaired by Dr. John Mihalevich of Springfield, has been working to get this program effectively operating.

The committee is a standing one whose members are interested in this area. The members provide assistance to those who have become impaired and are unable to maintain a level of performance consistent with the expectation of the public, their peers, MSMA, and the Missouri Board of Registration for the Healing Arts. The Committee's primary goal is to provide constructive intervention resulting in a restitution of normal functioning, yet an equally important goal is to protect the public from those physicians who, for whatever reason, are unable to recover to a level of acceptable performance.

An impaired physician is defined as a physician whose performance as a professional and as a practitioner of the healing arts is impaired due to alcoholism, drug abuse, mental illness, senility, or a disabling disease.

A hotline (314/636-5744) has been installed to receive calls with regard to alleged instances of impairment. An intervention seminar was held in November and was well-attended. Dr. William Farley of the Medical Association of Georgia provided invaluable information regarding concepts and principles of intervention.

MSMA, the Missouri Association of Osteopathic Physicians and Surgeons, and the State Board of Registration for the Healing Arts sponsored a program in February to study the feasibility of developing and implementing a monitored aftercare program. Information regarding available treatment programs is currently being compiled.

Most members feel in order to get the program going effectively a medical director must be hired. At least 12 other states have hired fulltime staff to strengthen their programs. The MSMA Council has authorized the hiring of a parttime medical director.

A recent seminar on physician impairment brought three nationally known experts together in Pennsylvania.

Dr. Gordon Deckert began by saying, "A healthy individual can work effectively, love adequately, and play recreatively. Physicians work effectively, love more than given credit, but don't do well when it comes to play."

Dr. James Shore stated, "Physicians impaired by affective disorders, alcohol or drug abuse, usually recover with treatment. Thirty-five of 43 physicians were in active practice and showed stable professional and interpersonal relationships. Mandated treatment programs, comprehensive medical and psychiatric evaluation, on-going treatment and long-term supervision are keys to a successful recovery."

Dr. David Canavan felt "Blowing the whistle on an impaired colleague is an act of love." The first and hardest task programs face is identifying

Continued on page 258

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Auxiliary Message

by Sandy Mitchell
President-Elect

Letters have been written to legislators and programs have been planned at the county level to spread the word that your medical Auxiliary is ready to help tackle the tough legislative issues facing medicine.

Day at the Legislature draws record crowd

On Tuesday, March 4, 1986, the MSMA Auxiliary hosted its most successful Day at the Legislature ever held. Sixty-seven Missouri State Medical Association Auxiliary members, 60 members of the Missouri Legislature and five MSMA staff members assembled at the Governor Hotel in Jefferson City for the annual Day at the Legislature. Afterward, Auxilians commented they were more aware of current legislative issues and many stated that, with their newly-acquired knowledge, they wanted to become more involved by taking the message to the community. As a result, letters have been written to legislators and programs have been planned at the county level to spread the word that your medical Auxiliary is ready to help tackle the tough legislative issues facing medicine.

Guest speaker Gary Passmore, one of the leaders in this year's successful tort reform movement, addressed the group on medical malpractice. Jeanette Akhter, M.D., spoke about lay midwifery legislation. The informative briefings were followed by a legislative summary by C. C. Swarens, MSMA Executive Director.

With 130 red carnations in hand, Auxiliary members descended upon the Capitol to greet their legislators on behalf of Missouri medicine. Legislators were delighted by the visits from their constituents and their comments ranged from, "So you're the one who keeps writing my office about medical issues," to "It's really pleasant to have a group come by with a gift (red carnations) and not be lobbying on any one specific issue."

This year's legislative awards were presented to four legislators for outstanding efforts on medical issues in the 1985-86 Session. Those presented with awards were Senator James L. Mathewson (D-Sedalia), Senator Robert T. Johnson (R-Lee's Summit), Representative Marvin Proffer (D-Jackson), and Representative Ray Hamlett (D-Laddonia).

A highlight of the luncheon was a speech by John Matthews, M.D., chairman of the MSMA Committee on Legislation. Dr. Matthews informed Auxilians of what has gone on in the Legislature this year, what needs to happen, and how Auxiliary members can expedite legislative activity.

Your Auxiliary is working. Throughout the state, Auxiliary members are becoming involved in legislative issues and taking action not only in the medical community but in the community at large. ■

■ Editor's Desk, *continued from page 253*

one patient we recently encountered? Our current attempts to deal with the immune system will probably look primitive. Interferon may well be in the snake root category by that time, while CT scanners could be displayed in medical museums. Halloween will be a proper time to tell horror stories of how doctors used to take knives and cut out parts of people's bodies.

For all of this, we won't fault the good Dr. Tennant for the medicine he practiced 150 years ago any more than we fault our own. The medications and treatments of today stem from these crude beginnings, and the dream drugs and procedures of tomorrow will be based on what we know and use today. Besides, who knows? Some 22nd century doctor of a scientific mind may boil up a peck of dry chestnut leaves and find a cure for dandruff, if not for Universal Dropsy. ■

Write
a letter to the editor.
P.O. Box 1028, Jefferson City, MO 65102

■ President's Page, *continued from page 255*

those physicians who need help. One major obstacle to identifying impaired physicians is the frequent denial by everyone. Often the impaired physician, his family and colleagues all refuse to admit there is a problem. Often colleagues are unwilling to speak up due to misguided loyalty or fear of being sued for libel. At the very least, we should speak to an impaired physician about his/her problem, if we recognize they have one. More than half of all identified impaired physicians are referred by other physicians.

The MSMA Physician Rehabilitation Committee plays an important role as an advocate helping physicians regain their place in the medical community. Members of the committee also may appear before boards of licensure and hospital credentials committee.

The legal authority for enforcement rests with the state government but the responsibility and practical initiative rests with the medical profession. Physicians are best qualified to evaluate professional competence and are in the best position to recognize deviant medical behavior when it first occurs.

All Missouri physicians need to be very supportive of this committee's important work. ■

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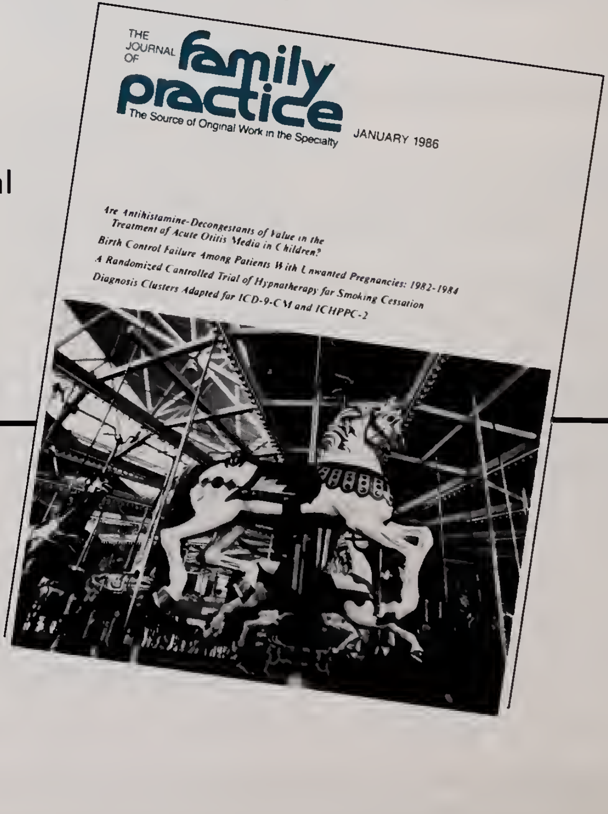

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The "Industrialization" vs. the Professionalism of Medicine, Part II

By Samuel B. Guze, M.D.

In the second part of this two-part series, Dr. Guze, vice chancellor at Washington University in St. Louis, discusses the choices facing physicians today and in the future including possible unionization and income reduction. He explores the need for physicians to develop new relationships and organizations to foster professionalism and he offers one possible solution to preserve professionalism in medicine.

Dr. Guze is head of the department of psychiatry at Washington University School of Medicine and psychiatrist-in-chief at Barnes and Renard hospitals.

Industrialization will achieve the same results in medicine as it has in other fields: the maximization of profits or surpluses, the maximization of return on capital, and great striving for increased market share. Under such circumstances, all individuals at all levels of the organization, including physicians, will be judged primarily according to their contributions to achieving these goals, and rewards will be distributed proportionately. These are obviously not the values of traditional medicine. But they could become our values.

Some will argue that there is nothing wrong with assuming these values and perhaps they are right, but many others, including many business leaders and the general public, would not be in favor of such a transformation of medicine. The medical profession needs to decide how it feels about this possibility and whether it wishes to accept it. Some of our colleagues have already decided that it is inevitable. They have begun urging unionization of physicians, arguing that it offers the best protection of physician rights and rewards. Other colleagues are distressed at such proposals and resist them just because they seem so clearly to be part of the context of industrialization.

It could be argued, however, that if physicians put maximum income and market share high on their list of goals and priorities, they have already crossed the Rubicon. By adopting the essential principles of modern industry, physicians will be unable to escape the forms and structures of industry.

The next point could prove to be even more disturbing than the previous ones. Physicians, to preserve their professional autonomy and their ethical values, will have to accept relatively reduced incomes. It has been noted elsewhere that the rapidly increasing ratio of physicians to population (increasing by about one third each generation) means that the average physician will see fewer patients. Independent of any further inflation, this means that the average physician's income will fall proportionately, unless the physician can increase income per patient. In the face of the extensive and powerful efforts now directed at cost containment, such increase seems unlikely, unless physicians receive a greater percentage of total expenditures for health care. (Physicians currently receive about 20% of such expenditures.) To increase their share of total health expenditures, physicians will have to take income primarily away from hospitals, since hospitals currently receive the largest share of these expenditures. This can only be done by increasing the kinds of potential conflicts of interest already considered. (It could also be noted here, as a warning, that by moving in these directions, physicians will be inviting into their practices the incredibly extensive and often frustrating regulation that now characterizes hospital operations.)

I have thus far discussed what most physicians will consider gloomy prospects. I have suggested that the medical profession may have to work under even greater public scrutiny and with even more extensive peer review than now and, at the same time, accept reduced income. Our experience with past and current public disclosure (informed consent) and peer review for cost containment cannot be reassuring about further developments along these lines, and no one is likely to be enthusiastic about reduced income.

But there is also a more cheerful side to our future. Medicine is inherently a fascinating profession, and is becoming more so every day as we learn more about health and disease through research. Few occupations offer its range of opportunity for intellectually stimulating and emotionally gratifying work, which, at the same time, is so important to everyone. The medical profession, it seems to me, is at a vitally important crossroads. It can accept the inevitability of its industrialization and decide to play that game as well as possible. I have no doubt that many of us will prove to be extremely able businessmen and entrepreneurs, but do we want these to be our goals?

Or, if we want to preserve and strengthen our professionalism, we will have to make a great concerted effort to foster those features of our professional behavior most characteristic of a respected, learned profession: high standards of performance in all ways, and unambiguously putting the interests of our patients above even our own financial advantage.

The medical profession is at a vitality important crossroads. It can accept the inevitability of its industrialization and decide to play that game as well as possible. I have no doubt that many of us will prove to be extremely able businessmen and entrepreneurs, but do we want these to be our goals?

Many will prefer to try to "have their cake and eat it too." They will argue that it should be possible to succeed as entrepreneurs and still maintain professional ethics and principles. Perhaps they are right. But it is very hard not to be skeptical, unless one can be persuaded that striving to maximize profits and working to increase market share are in the patient's interest at the time the patient is sick and needing medical care. The theory of the competitive market rests on the assumption that, in general and over the long haul, striving for increased efficiency and profitability will lead to the highest standard of service. This may be reasonable when the consumer can adequately judge the quality of the service or product. It becomes problematic when such judgment is severely limited, as is the case in evaluating medical care.

Similarly, some will argue that professional standards can be maintained through unionization. The history of unionization in other areas should give us pause, however. While unions have sometimes played a role in improving the quality of products or services, they have clearly — and understandably — put the interests of their members at the top of their priorities. It is impossible to believe that medical unions will behave differently.

Under both situations — entrepreneurial efforts in areas where the consumer is not in a good position to judge quality or unionization — external regulation, usually by government, has evolved to protect the consumer. Sometimes this has worked well, though obviously not without side-effects, but external regulation is not the same thing as professional self-regulation to achieve high quality of service or product.

It is possible that the idea of independent, traditional professions is dead. Such professions may only be anachronistic remnants of now outmoded social arrangements. We may be going through an understandable, inevitable period of mourning as our profession is being transformed into just another category of highly trained corporate employees. The life of such an employee can have many attractive features, but it is very different from the traditional concept of being a member of a learned profession. Being the employee of a business, regardless of how paid — fixed salary, bonuses, piecework — is very different from being part of a self-governing, collegial organization, like a learned profession. Under the former arrangements, important policy decisions are made by the leaders of the business; under the latter, such decisions are primarily made by the professionals.

Few physicians want to see this transformation; hence the widespread malaise, fear, and anger. Yet one senses that few physicians know what to do about the trend; hence the sense of discouragement and resentment.

It seems that if we are to do anything to slow or reverse the transformation, we must reaffirm our commitment to the best of our professional principles and ethics and, most importantly, conform our actions to our affirmations. We have only narrow limits within which to act. We are either going to accept our incorporation into the new industrialized medicine or we are going to work at preserving our professionalism. I very much doubt that we can have it both ways.

Physicians cannot solve these problems as individuals, because all of the new forces, from business, insurance companies, government, and the for-profit health care corporations, if successful, will undermine independent medical practice as it has been known for many generations. The for-profits make no bones about their intention to capture, as soon as possible, potential patients through comprehensive arrangements that they plan to market to American businesses. They intend to offer integrated programs, including ambulatory care through a variety of HMO arrangements, emergency services, secondary and tertiary hospitals, and the insurance capability to support these programs. If they succeed in selling their systems as financially competitive and all-inclusive, they will invite physicians to provide professional services on the conditions set by the for-profits. The growing surplus of physicians will limit the physician negotiating strength. Some major business corporations will set up and run their own health-care systems on a similar basis. It will be extremely difficult for individual physicians and even for many physician groups to cope with such developments. They must develop new relationships, and perhaps new organizations, designed to foster professionalism. These relationships and organizations can be most effective if they include institutions that are also committed to high professional principles and ethics, such as university medical centers.

I am suggesting that one way — perhaps the best way — for practicing physicians to preserve their professionalism is to cultivate and strengthen their affiliations with academic institutions.

There are probably other models, but since I know the possibilities inherent in the university medical center, I'd like to speak to it. Its educational and research programs are based upon deeply held commitments to high standards and, in turn, these programs reinforce such commitments. The priorities and value systems of the academic world are genuinely compatible with the highest ethical standards of medical care. While medical schools and teaching hospitals must be concerned with efficiency and budgetary issues, these are not the driving forces of their operations. They need to be in the black, but they want to be solvent so they can continue to offer students, faculty, and patients programs that meet the highest standards — philosophical as well as technological.

Thus, I am suggesting that one way — and perhaps the best way — for practicing physicians to preserve their professionalism is to cultivate and strengthen their affiliations with academic institutions. If, as many believe, physicians are going to be increasingly absorbed into organized systems for practicing medicine, physicians — especially those who have the opportunities because of local university medical centers — can choose. They can be part of business-based programs or they can choose to be part of university-based programs.

My viewpoint is certainly biased, but I believe it will be much easier to preserve professionalism within the university medical center than within the for-profit environment. Those physicians who agree can begin to explore with the university medical center optimal ways to accomplish this. For everyone, it will involve commitments and obligations different from traditional patterns. The university medical center will have to accept responsibility for protecting its physicians' professional principles and values while the physicians will, in turn, have to accept responsibility for strengthening and protecting the university medical center. The highest professional standards, at all levels of patient care, teaching, and research, will have to command the loyalty of all elements. The physicians involved will have to accept the burdens, including financial ones, required to maintain these standards. They will have to accept the necessity of helping support the medical center's teaching and research activities, and they will have to give up some of their traditional autonomy as individual practitioners. For these sacrifices, they should be much more able to preserve their traditional professional values and principles.

Missouri physicians have four medical schools with which to form new affiliations and associations. It will require imaginative and flexible approaches. But the stakes are high and certainly warrant sincere efforts from everyone involved. ■

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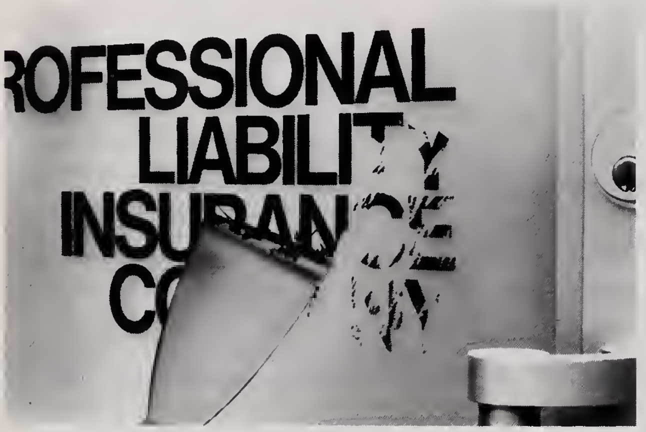

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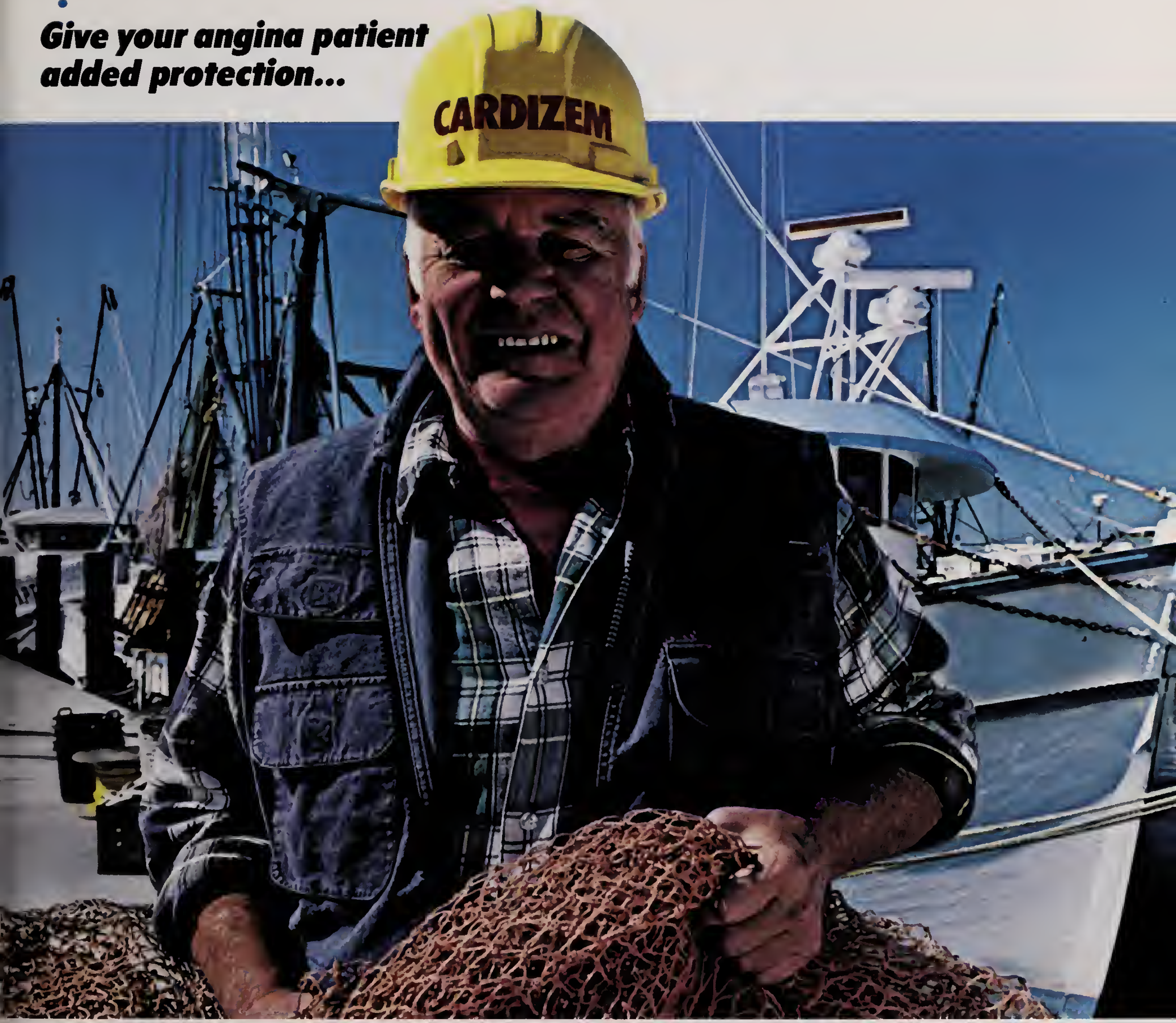

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FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

BRIEF SUMMARY

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction**. CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely co-administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84

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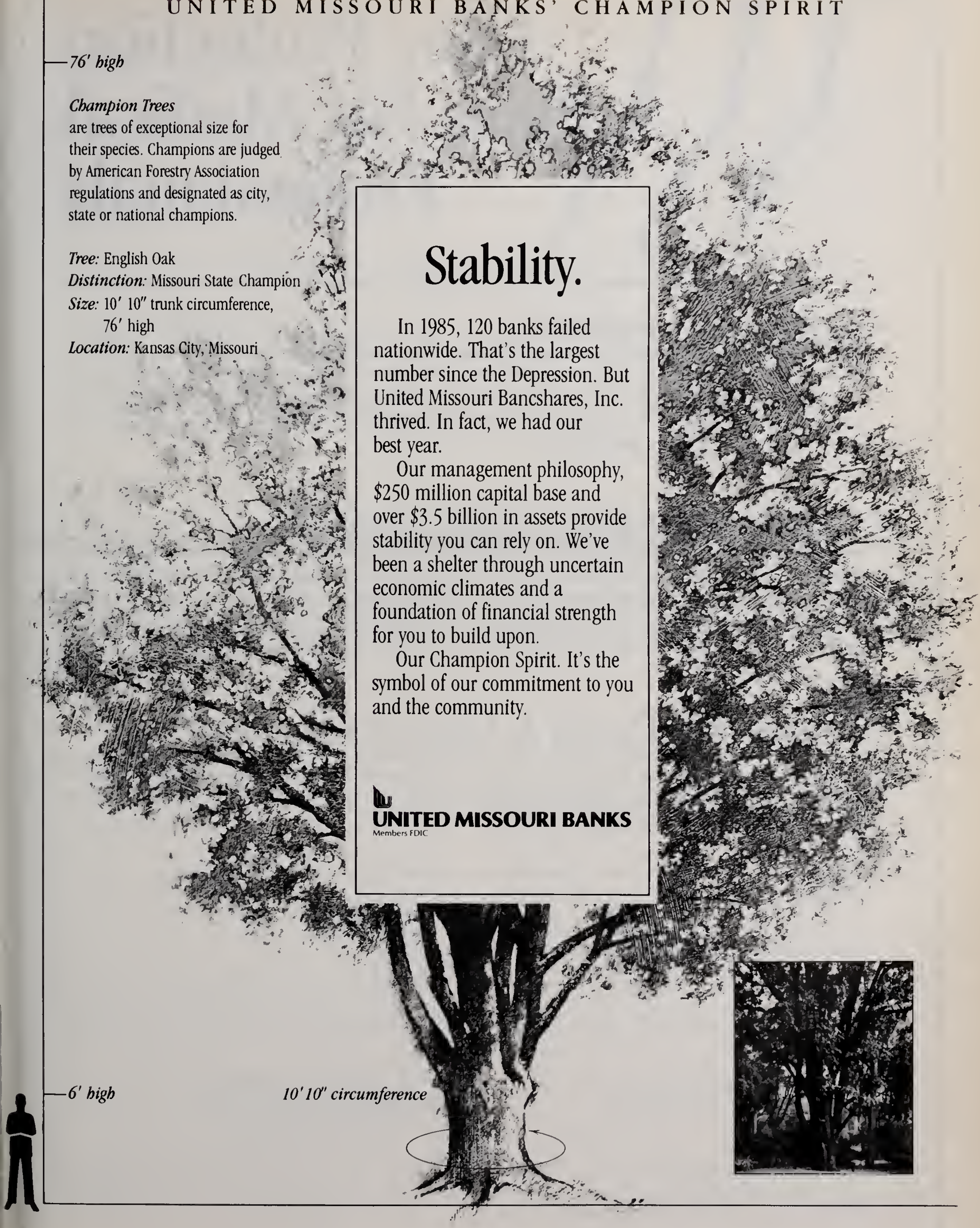

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New Approaches to Streptococcal Pharyngitis

Barbara Nohinek, M.D., and William G. Barnes, Ph.D.
Kansas City, Missouri

Streptococcal pharyngitis continues to be a disease of medical and economic importance. New developments in the clinical, diagnostic, and therapeutic approaches to the disease are presented, including the new rapid tests and current thought on early treatment.

Pharyngitis remains one of the most common clinical problems, accounting for up to 5% of pediatric visits and 40 million adult visits to physician's offices annually in the United States.[1, 2] In 1950, Wannamaker, et al, showed that adequate treatment of Group A beta hemolytic streptococcal (GABHS) pharyngitis led to a dramatic decrease in the incidence of first attacks of rheumatic fever.[3] Since then, the diagnosis and treatment of "strep throat" has become an important concern to the practicing physician. The incidence of rheumatic fever has declined dramatically over the past decades due to the widespread use of penicillin and improved access to health care. Treating streptococcal pharyngitis to prevent rheumatic fever and its sequelae remains important. Although guidelines for therapy have not changed significantly over the last few decades, certain aspects in the diagnosis and therapy of GABHS pharyngitis have recently come to the forefront. These include the effects of early therapy on clinical outcome of the disease, the significance of the carrier state, the value of throat culture, and the use of recently available rapid diagnostic tests.

The clinical features of streptococcal pharyngitis are nonspecific and follow an incubation period of two to four days. The onset of illness is sudden and begins with sore throat, fever, malaise, and headache. In children, nausea, vomiting, and abdominal pain are common. Prominent physical findings include patchy gray tonsillar exudates, erythematous pharynx, tender submandibular adenopathy, and temperature greater than 101°F. Not all patients present with the typical syndrome, as 50% of patients with positive throat cultures and sore throats will not have tonsillar exudates. An adult or older child with recent exposure to streptococcal infection who has pharyngeal exudates, tender adenopathy, and fever has a high probability of having streptococcal pharyngitis.[4] In infants and children under the age of 3, the disease may be more subtle. Scarlet fever, an erythematous rash, may develop if the streptococcal strain produces an erythrogenic toxin.

Other suppurative complications which may result from acute streptococcal infection include peritonsillar or retropharyngeal abscess, and cellulitis. Otitis media and acute sinusitis may occur as a direct extension of streptococcal pharyngitis into adjacent structures. Cervical adenitis can also occur. Since the widespread use of penicillin, more serious complications, such as extension of infection through the cribriform plate causing central nervous infections such as meningitis and brain abscess, as well as bacteremic spread of infection with metastatic abscess formation, are rare.

The nonsuppurative complications of streptococcal pharyngitis are rheumatic fever and acute glomerulonephritis. Antibiotic therapy given up to nine days after the onset of streptococcal pharyngitis can abort rheumatic fever. The effect of antibiotic therapy on the development and prevention of acute glomerulonephritis has not been proven.

Pharyngitis and tonsillitis may be caused by a variety of bacterial, viral, and other organisms, including chlamydia and mycoplasma. About 30% of patients who complain of sore throats will have throat cultures positive for GABHS.[5] Considering the many etiologic agents of pharyngitis and the variable clinical findings, it is not surprising that the diagnosis of streptococcal pharyngitis based on clinical grounds alone is inaccurate. This conclusion was first established by Breese and Disney in 1954 and has since been supported by other investigators.[6] Certain clinical findings, such as exudative tonsillitis, fever, and tender adenopathy, are more frequently associated with a positive throat culture for GABHS.[4] However, even the most experienced practitioners using clinical criteria alone may fail to treat 25% to 50% of patients with streptococcal pharyngitis and may needlessly treat about 25% of patients.[6, 7] For this reason, throat culture remains the "gold standard" for the diagnosis of GABHS pharyngitis.

Obtaining a throat culture for patients with pharyngitis has been and remains routine office practice, with 28 million to 36 million throat cultures performed annually in the United States.[8] Obtaining throat cultures may soon be challenged by the availability of a rapid diagnostic test for GABHS. A negative throat culture effectively rules out GABHS pharyngitis. A positive throat culture in a patient with pharyngitis and history of exposure to streptococcal disease is significant. Positive throat cultures in the asymptomatic patient or cultures with only few colonies of streptococcal organisms probably represent the carrier state. Because antibodies are not developed until the convalescent period, detection of antibodies is not usually helpful in differentiating asymptomatic carriage from significant disease acutely. It is best to assume that positive cultures in patients with acute pharyngitis are significant, and these patients should be treated.

The need for reculture following a course of antibiotic therapy is currently an area of debate. As the incidence of rheumatic fever continues to decline in the United States, the benefit-cost ratio of repeating cultures declines also. Certainly patients who are at high risk or are symptomatic should be recultured. If reculture is positive for GABHS, only one repeat course of therapy is warranted. Streptococcal carriers may remain weakly positive after repeated antibiotic therapy without antibody response and should not be retreated or recultured.[9]

Recently the value of doing initial throat cultures has been questioned. One reason has been the difficulty of distinguishing true infection from the carrier state. Persons with acute streptococcal infections usually have strongly positive cultures. The increasing cost of medical care, especially the excessive use of the laboratory and misuse of the throat culture, are two other reasons cited for not obtaining initial throat cultures. Culturing every upper respiratory infection, ignoring clinical and epidemiologic clues, is not appropriate and probably detects many carriers who are needlessly treated and retreated. The 24 to 48 hour delay in obtaining results of a throat culture creates problems for the practitioner. Antibiotic therapy is frequently started prior to culture results despite the fact that most patients will not have GABHS disease and will not benefit from antibiotic therapy.[10] Too often, when negative culture results become available, antibiotics are continued regardless.

Delaying therapy until culture results are available has been advocated by some for several reasons. First, a delay in therapy will not affect the prevention of rheumatic fever, which may be effectively treated within nine days from the onset of symptoms. A second reason frequently cited is that treatment does not affect the clinical course of disease. This statement has been refuted by a recent study by Krober, et al.[10] In this placebo-controlled, double-blind evaluation of clinical response to penicillin therapy, it clearly was shown that penicillin-treated patients were all afebrile within 24 hours, most had significant symptomatic improvement, and throat cultures were negative in all. In placebo-treated patients, fever and other symptoms remained for more than 48 hours, and throat culture remained positive. In another "recent" study by Nelson, reporting on data from several decades ago, the effect of penicillin therapy on streptococcal pharyngitis in children was examined.[11] A treated group was compared to a randomly assigned "no-treatment" group in whom penicillin therapy was delayed for 48 hours. The beneficial effects of penicillin on symptoms and signs during the first two days was clearly demonstrated. Hall and Breese summarized the work of Nelson and others in a follow-up editorial.[12] Although none of these studies contained a placebo-controlled group, patients who received less than adequate therapy served to prove the effectiveness of penicillin. Certainly early therapy is important in alleviating the child's symptoms, allowing earlier return to school or daycare and reducing parental time lost from work. In the author's opinion, early treatment would certainly be facilitated by a rapid diagnostic test. Early diagnosis and treatment would alter the clinical course of disease, continue to decrease the incidence of acute rheumatic fever, and eliminate unnecessary medication.

Prolonged rather than high-dose penicillin therapy remains the mainstay of effective treatment for streptococcal pharyngitis. Benzathine penicillin G, 1.2 million units, may be given intramuscularly. Oral penicillin VK must be given for a full 10-day course. In the penicillin-allergic patient, erythromycin 20 to 40 mg/kg/day is the alternative drug. Cephalosporins may be used if erythromycin is not tolerated. Tetracycline is not effective therapy.

Fortunately, there have been significant developments made in laboratory diagnostic procedures for detecting the presence of GABHS in patient's specimens. Most efforts have been toward development of non-growth dependent test systems that allow for rapid detection of these organisms directly in patient throat/pharyngeal specimens, rather than improving culture methodology for increased recovery or growth of these organisms. There has been some effort in this regard, however, e.g. development of improved selective primary isolation media, such as SXT (sulfamethoxazole-trimethoprim) medium.

Conventional growth-dependent laboratory procedures for isolation of group A streptococci require overnight or at least 18 hours' incubation, and preferably an anaerobic atmosphere for enhancement of beta hemolysis. Subsequent identification of suspect colonies that appear on culture media require an additional 18 to 24 hours if presumptive bacitracin disk (0.04 u) susceptibility identification follows. However, this test will miss approximately 5% of the group A streptococci when compared with classical Lancefield serotyping. To expedite identification of group A streptococci, the bacitracin disk may be placed directly on the primary culture plate immediately after the plate is streaked with the patient's specimen and incubated. This procedure is reliable only if there are sufficient numbers of the organisms in the patient's specimen, and if there is no overgrowth of normal flora. This procedure will, in fact, reduce the sensitivity of the test by about one third and, in addition, will reduce the test specificity because some group C and F serotypes will also show zones of inhibition around the bacitracin disk.

Presently, there are rapid techniques that are sensitive, specific, and allow identification of group A streptococci from suspect colonies. Rapid tests such as coagglutination *(Phadebact®, Pharmacia Diagnostics, Uppsala, Sweden)* or latex agglutination (*Streptex®, Wellcome Reagents, Beckerhen, England)* require approximately one minute and one hour, respectively, to complete. Fluorescent antibody staining, although accurate for serogrouping streptococci, has not been shown to be sufficiently accurate when used as a method for direct identification of streptococci from throat swabs. Direct gram stain smears have also been used as a possible alternative to culture techniques, but they, too, have proven to be less accurate. The technique requires a high level of microscopic expertise and is generally too insensitive to be considered satisfactory for routine use.

The first attempts to detect group A streptococcal antigen directly from throat swabs that employed latex agglutination, coagglutination, or enzyme-linked procedures were too complex for use in doctors' offices, or clinics, and lacked needed accuracy. However, the recently released rapid antigen detection systems are considered acceptable, as they have proven for the most part to be both specific and sensitive and readily adaptable for practical office, clinic, or hospital usage. Currently, there are 15 different commercially available systems designed to rapidly detect group A streptococcal antigen in patient specimens. Some of these systems are not as practical as others, and their routine use in office practice is limited.

In order for a test system to be acceptable for office or clinic use, testing must be relatively simple to carry out, require no special equipment, and allow for the patient to wait for the results. A reliable lab test that meets these criteria would enable the clinician to initiate early antibiotic therapy with the patient receiving the benefit of a quick therapeutic response without suppurative or non-suppurative sequelae, or, as with negative test results, prevent unnecessary antibiotic exposure.

At the present time the most popular rapid direct detection methods employ latex agglutination reactions. In these methods latex beads coated with specific group A streptococcal antibodies bind to the group A streptococcal antigens that have been extracted from throat swab material, either by acid or enzyme treatment. A positive test is indicated by a visible clumping of latex particles. Acid extraction methods, which are more appropriate and practical for office use, require a maximum of five minutes, while enzyme extractions require 45 minutes. The most widely used acid extraction system is the Culturette™ 10-Minute Group A Strep ID, Marion Scientific, Kansas City, Mo. The reasons for its acceptance are: (1) it can be completed in 10 minutes while the patient waits in the office for the results; (2) it has had the most extensive documentation of reliability and effectiveness; (3) it is easy to perform, and (4) it requires no special equipment as the test system is totally self-contained.

Representative hospital-based evaluations of the Culturette brand test have shown a sensitivity of 83% to 95%, a specificity of 99% to 100%, a positive predictive value of 98% to 99%, and a negative predictive value of 93% to 99% when compared with conventional culture results.[13-15] In these studies, false negative test results were noted primarily in specimens that had fewer than 10 group A streptococcal colonies on the culture medium. The significance of isolations with low numbers of colonies has not been well-established, but the possibility exists that this might indicate a carrier state. False positives are generally considered to be due to over-interpretation of the latex agglutinations.

Unfortunately there are not many office-based evaluation studies available on the rapid detection systems. Swartz et al[16] recently published their experiences with the Culturette brand test carried out in two office practices. Paired throat swabs from 305 symptomatic patients were used, one for culture isolation and the other for testing with the Culturette brand test. In one of the studies, the Culturette test showed a sensitivity of 96% and a specificity of 92%, while the other practice study showed a sensitivity of 89% and a 90% specificity. The differences were attributable to differences in the training and expertise of the personnel carrying out the testing. Two other office studies have reported sensitivities of 91.6% and 84.6% and specificities of 97.8% and 82.8%, respectively.[17, 18]

In summary, streptococcal pharyngitis remains an issue of medical and economic concern. Recent studies have emphasized the importance of early therapy on the clinical outcome of disease. Rapid diagnostic tests now available allow the clinician to initiate early antibiotic treatment in those patients with positive tests. Patients with negative tests would be spared unnecessary therapy.

Unsettled issues remain. What should be done with the patient who has a falsely negative result on an antigen detection test? Some investigators have advocated that a patient's throat be swabbed with two swabs simultaneously, and, if the antigen detection test is negative on the first swab that the second swab then be sent for culture.[19] Certainly addressing these issues and others will improve overall patient care.

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Cutaneous Leishmaniasis in a Native of Missouri

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As worldwide travel becomes more popular and accessible, physicians may expect to see more cases of exotic diseases not endemic to their home country. This report of a case of leishmaniasis, contracted in central Africa by a Missourian, aptly illustrates the diagnostic challenge presented by a non-endemic disease.

We are seeing an unprecedented influx of persons afflicted with obscure tropical diseases. In part, this is due to many Americans touring or working in regions where the diseases are endemic, but this is also due to refugees and immigrants in extraordinary numbers who are moving directly into mid-America. For example, this patient had leishmaniasis, a disease which offers many obstacles to diagnosis even after the physician considers it. Strong initial suspicion is necessary because the organisms are difficult to see in fixed tissue, and culture is not a practical option in most laboratories. Although a biopsy is the usual procedure for managing non-healing ulcers of the skin, success is elusive unless the pathologist is alerted plainly to the diagnosis of leishmaniasis. Special electron microscopy or elaborate cultures may be decided upon. Serologic tests or skin tests may be used to confirm the laboratory decisions. As the world becomes more cosmopolitan, physicians must become increasingly sophisticated about the diagnosis of diseases not endemic in Missouri.

Case Report

A 61-year-old anthropology professor had lived among natives for several weeks in central Africa. When he stayed in the village huts, he reported receiving many insect bites and stings. He had not protected himself with mosquito netting or insect repellant. Just prior to his return to the United States, he had felt a small red papule at the nape of his neck. The asymptomatic papule persisted for three weeks and then deteriorated into a necrotic ulcer. He was seen by a local physician, who treated the ulcer with a course of antibiotics and aggressive local care. When the ulcer failed to respond, the patient was referred to the dermatology service at the University of Missouri-Columbia. The irregularly shaped 4 cm ulcer was deep, necrotic, and showed scant granulation tissue. The border of the ulcer was papular with a discrete nodule in the inferior edge. The patient seemed otherwise healthy and had no other complaints.

A 4 mm punch biopsy specimen was obtained, which was stained with H&E and Giemsa. On thinly cut Giemsa sections, the diagnostic 2 μm to 4 μm red, oval, non-encapsulated organisms were observed within macrophages. This was confirmed by electron microscopy.

One week after the biopsy, the patient returned for therapy. The ulcer was healing with granulation tissue and eschar formation. Cryotherapy was undertaken for destruction of the ulcer. A 5 mm rim of normal tissue was included with a three-minute freeze/thaw time. The ulcer showed healing and is now without sign of recurrence.

Discussion

Old World cutaneous Leishmaniasis due to *Leishmania tropica* was described in 1885. "Oriental sores," "Bagdad boils," or "Allepo boils" were the colorful names given to the disease. The disease is endemic in rural areas of Central Asia, the Middle East, and the sub-Saharan and highland areas of Africa. Rodents constitute the central reservoir for the protozoa, although dogs and man have been implicated. The female sandfly, phlebotomus, is the vector, with the flagellated promastigote form found in the insect and the amastigote form found in man. Cutaneous leishmaniasis has an incubation time of two to six months, and the initial papule may persist for weeks before the sudden ulceration. The course of ulceration and the peculiar necrosis suggest the correct diagnosis. This form of cutaneous leishmaniasis is known for its usual benign course and paucity of recurrence in healthy patients. Healing, however, may require many months.

For therapy of this disease, we prefer cryotherapy. Old World cutaneous leishmaniasis has been treated successfully with surgery, antimonials, rifampin, and heat therapy. The objective of cryotherapy is to destroy organisms in the ulcer and thereby strengthen the natural immune response. The leishmania organism is particularly sensitive to both heat and cold, and cryodestruction of leishmania ulcers is both easy and safe. Systemic therapy is needed only if a recurrence is found.

The evaluation, therapy, and follow-up of our patient was predicated on the awareness that his was Old World cutaneous leishmaniasis. New World cutaneous leishmaniasis, which occurs in Central and South America, has a much more destructive course with frequent mucosal involvement and absence of healing. Had this patient contracted cutaneous leishmaniasis in the New World, concerns about the subsequent development of mucocutaneous lesions and non-healing ulcers would have altered our program.

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Galactosemia: Progress in Neonatal Screening in Missouri

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The success of a neonatal screening program for metabolic diseases, including galactosemia, is documented. Suggestions of ways physicians and hospitals can help insure continued program success are also given. The data so far indicate that the incidence of galactosemia in Missouri matches national rates.

Neonates in the state of Missouri have been screened since 1967 for phenylketonuria (PKU) and since 1981 for primary hypothyroidism. Screening for an additional metabolic disease, galactosemia, was instituted in December 1983 as a pilot project. A fully operational screening program for this disorder was put in place in July 1985. This paper reports on the expansion of Missouri's neonatal screening program.

Galactosemia: Screening Rationale

The rationale for neonatal mass screening for metabolic diseases has recently been reviewed by us[1] and has been discussed in greater depth by others.[2-4] Like PKU and primary hypothyroidism, galactosemia meets the criteria for a disease for which mass screening is advisable: 1) Galactosemia is caused by inborn errors of metabolism that cause lifelong irreversible damage to physical and mental health. 2) It is preventable. 3) Treatment is not complex. 4) It is easily and frequently missed by the usual medical examination of the newborn. 5) A suitable and inexpensive screening test is available. 6) It occurs with a frequency that makes mass screening cost effective.

Screening tests are designed to identify within a large population a small group of subjects to whom more complex and costly but definitive tests may be applied. There are reports of several programs successfully screening for galactosemia from other states and countries.[5] Since early 1985, galactosemia screening has been available in 33 states.[6]

More Than One Disease

The disaccharide lactose, found in all milk products, is a significant part of the North American diet and accounts for nearly half of the caloric intake of newborns and infants. It is cleaved by the intestinal mucosa into two monosaccharides, glucose and ga-

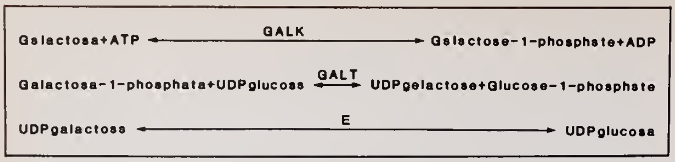
Galactose+ATP
GALK
Galactose-1-phosphate+ADP
Galactose-1-phosphate+UDPglucose
GALT
UDPgalactose+Glucose-1-phosphate
UDPgalactose
E
UDPglucose

Figure 1. Early steps of galactose metabolism. GALK = Galactokinase, GALT = Galactose-l-phosphate uridyltransferase, E = Uridyldiphosphate galactosep-4-epimerase.

lactose. At least three enzymes participate in the early steps of the metabolism of galactose: galactose kinase (GALK), galactose-l-phosphate uridyl transferase (GALT), and uridyldiphosphate galactose-4-epimerase (E) (Fig. 1). Deficiencies of all three enzymes result in increased blood concentrations of galactose.[7-9] The deficiencies of only two of these enzymes, GALK and GALT, are associated with disease. Mental retardation results only from GALT-deficiency, which results in increased concentrations of galactose-l-phosphate and galactose. E-deficiency is a benign disorder; there are no known ill effects, perhaps with extremely rare exceptions.[10]

Only complete absence of the activity of GALT and GALK, as in the homozygous state, results in disease, while the heterozygous state with reduced enzyme activity does not. Similarly, variants of GALT with reduced enzyme activity attributable to mutant genes usually do not cause illness.

Uridyl Transferase Deficiency

Galactosemia secondary to homozygous GALT-deficiency is referred to as classical galactosemia. Galactose-l-phosphate which accumulates before the enzymatic block is believed by some investigators to be the major injurious agent. GALT-deficiency should be considered in neonates, older infants or children with any of the following symptoms: jaundice, hepatomegaly, splenomegaly, vomiting, hypoglycemia, convulsions, lethargy, irritability, feeding difficulties, poor weight gain, aminoaciduria, cataracts, hepatic cirrhosis, ascites, and mental retardation. As many as 30% of infants with unrecognized galactosemia may contract *E. coli* septicemia. The great variety of symptoms suggests many common conditions. Galactosemia is *infrequently* the cause. The diagnosis of galactosemia is nevertheless urgent. When it is not made within days of birth and is delayed until symptoms have become apparent, irreversible brain and liver damage has probably already occurred.

Galactose is normally present in the urine of infants fed lactose-containing (milk) formulas. Increased amounts will give a positive test for reducing substances (Clinitest®) and a negative test for glucose (Multistix®) using the glucose oxidase reagent.[7] Three or four plus reactions strongly suggest galactosemia, but some normal infants spill galactose, and some intants with galactosemia may not have large amounts of reducing substance in their urine. Galactosuria may also be intermittent. While routine urine testing of newborns is widely practiced, it is being replaced by the more specific blood tests.

Treatment of classical galactosemia consists of prompt institution of a galactose-free diet. Use of special formulas and instruction of the infants' parents regarding dietary exclusion and substitution have been shown to be effective treatments.[7] Therapeutic success is supported by several studies of physical and mental development, including IQ measurements.[7]

Classical galactosemia is inherited with an autosomal recessive pattern. The homozygous state is estimated to occur in approximately 1 of 40,000 births. There are approximately 80,000 births in Missouri each year.

Several rare, apparently harmless variants of GALT-deficiency, which are often detected by screening tests, have been recognized in the past few years.[9] Enzyme activity in these cases is reduced but still sufficient to prevent accumulation of harmful concentrations of the substrates, galactose or galactose-l-phosphatase. These variants have been variously labeled according to the location where they were first observed: Duarte, Rennes, or Indiana. The variant genes can be present in the homozygous state or in the heterozygous state in combination with either the normal gene or with the classical galactosemia gene. Any of these combinations can result in abnormal screening tests, but cannot be differentiated from classical galactosemia by the screening procedure. Specific assays for enzymes in red cells are required to establish a final diagnosis.

Kinase Deficiency

Galactosemia secondary to GALK deficiency, in contrast to classic galactosemia, is a much milder disease characterized by cataract formation during later childhood. There is no hepatotoxicity, hepatosplenomegaly, aminoaciduria, or mental retardation. Present screening in Missouri, designed to detect only GALT deficiency, does not detect this variant.

Specimen and Laboratory Technique

Various laboratory techniques for galactose screening on heelstick blood dried on filter paper have become available.[11-15] The same specimen that presently serves in Missouri for PKU and primary hypothyroidism screening is also used for galactosemia testing.

Tests recognize either the elevated blood galactose and galactose-l-phosphate concentrations or the lack of GALT-activity in the neonate's red cells. The Missouri laboratory has elected to use as a primary screening assay a technique [11] originally described by Beutler and Baluda[12] which detects reduced or absent enzyme activity. In normal blood specimens, added NADP (nicotinamide adenine dinucleotide phosphate) is reduced to NADPH (reduced NADP) by the GALT. NADPH produces bright fluorescence in ultraviolet light. Fluorescence fails to appear in GALT-deficient blood.

The reaction sequence also depends on a normal concentration of auxiliary enzymes in the specimen, in particular glucose-6-phosphate dehydrogenase and phosphoglucomutase.[14] There is concern that under adverse conditions, such as summer heat, these enzymes, as well as GALT, may deteriorate in transit to the laboratory, thus producing false positive results.

For this reason a secondary screening assay was instituted in Missouri, analyzing the filter paper specimen for accumulation of the stable substrates, galactose and galactose-l-phosphate, rather than the heat-sensitive enzyme activity. Any specimen not demonstrating normal fluorescence is submitted to the secondary assay, described by Hill et al.[15] Increased levels of galactose and galactose-l-phosphate reduce NADP to NADPH, its fluorescent form. Specimens with such increased fluorescence on inspection are then reassayed by the same technique with quantitation by a fluorometer. Levels less than 600 μmol/L are considered normal. Substrate can only accumulate when the enzyme is deficient, and after the neonate has been challenged by a normal galactose load from milk feeding.

Laboratory Reports

The program issues three different reports for galactosemia screening, descriptions of which follow.

"Negative" indicates normal GALT activity has been detected and no further testing is required, unless there is clinical evidence to the contrary.

When reduced or absent GALT activity is found and substrate level is normal, the laboratory will call the hospital to determine whether breast milk or milk-containing formula was fed. The results are to be interpreted as negative if it can be assured that the neonate has received lactose-containing feeding, human milk or milk-based formula, for at least 24 hours. However, it is advised that a repeat filter paper specimen be forwarded to the State Laboratory or a specific test for GALT-deficiency be performed, as clinically prudent. If the neonate has not received lactose-containing feeding, the specific red cell test for GALT-deficiency should be performed, and the neonate should be placed on lactose-free feedings until a definitive diagnosis is made. The physician is also notified by phone.

"Presumptive positive" indicates there is absent or reduced GALT activity and more than 600 μmol/L substrate. In this case, it is likely that the neonate has galactosemia or one of its variants. The neonate should promptly be placed on non-milk-based formula, and specific tests should be performed. The physician is notified by phone and letter.

Like all screening tests, the galactosemia test is expected to yield occasional false positive test results. Some will be attributable to the loss of enzyme activity in the blood spot specimen. An increase in false positives is expected during the summer months, when heat and humidity are presumed to destroy the enzyme activity in the filter paper specimens. As with all screening tests, the test procedure is designed to yield as few false negative results as possible at the price of more false positive results.

Early Success of Galactosemia Screening

The first newborn with classical galactosemia was detected by the screening program in the fall of 1984. The physician was notified of the presumptive positive screening test within four days of the collection of the heelstick specimen and within two days of receipt of the specimen in the laboratory. The neonate was fed a non-milk-based formula, and a definitive diagnosis was established promptly with the help of a referral center. A second case of galactosemia was diagnosed directly with definitive tests because of a positive family history. Thus, the two cases identified within the state since beginning of the pilot program match the expected incidence of the disease (1:40,000).

Continued Success of the Program

Physicians and hospitals can help insure the success of the screening program by using appropriate testing techniques.

First, specimen quality is paramount, as detailed in pamphlets distributed by the state to all hospitals. All five circles of the filter paper kit need to be filled completely with heelstick blood. Heels should be dried after cleaning with alcohol sponges, as alcohol destroys enzymes.

Second, the feeding history is vital to the interpretation of test results for both galactosemia and PKU, and should be noted on the kit. Newborns breast-fed or having received milk-based formula for at least 24 hours will have no GALT and increased galactose blood concentrations if affected by galactosemia. Thus, the laboratory can apply a second different screening test designed to detect the increase in galactose and galactose-l-phosphate rather than the enzyme defect itself. This approach is likely to decrease the number of false positives as the laboratory accumulates additional experience.

Third, as a timely diagnosis is crucial for all three diseases, all specimens should be mailed to the State Laboratory promptly, on a daily schedule.

When a presumptive positive result is received, contact should be established with a physician at a state referral center, listed in the appendix. In the case of suspected galactosemia, the newborn should be placed promptly on a non-milk-based formula such as soy protein or casein hydrolysate-based formula without lactose until such diagnosis is ruled out, thus preventing neural or other tissue damage.

PKU and Hypothyroidism Screening

Since the beginning of the program approximately 1,300,000 newborn specimens have been screened for PKU and approximately 400,000 for primary hypothyroidism, resulting in the detection of 141 cases of PKU (1:9,220) and 62 cases of hypothyroidism (1:6,452). Both incidences are in general agreement with national averages.[2] No cases missed by the screening program have come to attention.

The Future of the Program

Much of the future of the Missouri Neonatal Screening Program depends on its ability to communicate with the physicians and clinics that provide medical care for patients identified by the program in years past. For example, affected females identified in the early years of the PKU screening program are now reaching childbearing age and require aggressive dietary management during pregnancy to insure optimal fetal outcome. Not only information in regard to the final diagnosis but data on adherence to prescribed treatment and/or physical and intellectual development of patients identified by the testing are vital to its continued success.

The Missouri Department of Health and Department of Mental Health have made available a list of referral centers (see Appendix). These regional consultants, who are also members of the Advisory Committee for Neonatal Screening for Metabolic Diseases, contribute their services to the Department of Health and are available at all times for consultation to physicians caring for patients with metabolic diseases found by this screening program.

ADDENDUM

Since submission of the manuscript, a third case of classical galactosemia was identified by the Missouri Neonatal Screening Program.

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APPENDIX

Consultants for Hypothyroidism, Phenylketonuria, and Galactosemia

Cardinal Glennon Memorial Hospital for Children
Saint Louis University, St. Louis, MO
Dr. Thomas Aceto Jr. 314-577-5648
Dr. James A. Monteleone 314-577-5639
Dr. Virginia H. Peden 314-577-5651

Children's Mercy Hospital
University of Missouri-Kansas City
Dr. Jerome A. Grunt (hypothyroidism only) 816-234-3070
Dr. Campbell P. Howard (hypothyroidism only) 816-234-3072
Dr. David J. Harris (PKU and galactosemia only) 816-234-3290

Lester E. Cox Medical Center, Springfield, MO
Dr. James S. Noble 417-836-3000

St. Louis Children's Hospital
Washington University, St. Louis, MO
Dr. Dennis M. Bier (hypothyroidism and galactosemia) 314-454-6051
Dr. Richard E. Hillman 314-454-6093
Dr. Julio V. Santiago (hypothyroidism only) 314-454-6051
Dr. Sherida Tollefsen (hypothyroidism only) 314-454-6051
Dr. Neil H. White (hypothyroidism and galactosemia) 314-454-6051

University of Missouri-Columbia 314-882-3996
Dr. David E. Goldstein (hypothyroidism only)
Dr. Calvin W. Woodruff (PKU and galactosemia only)

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DAVID J. HARRIS, M.D.
JAMES H. BAUMGARTNER, M.B.A.

Drs. Haibach and Woodruff are from the University of Missouri-Columbia. Dr. Harris is from the University of Missouri-Kansas City, and Mr. Baumgartner is with the Missouri Department of Health, Jefferson City.

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Pubertal Development with Gonadal Dysgenesis

Gregory C. Starks, M.D.
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Pubertal development is unusual in patients with 46, XY gonadal dysgenesis. In this case report, a 19-year-old woman, who had developed complete secondary female sex characteristics, was found to have an H-Y^+ phenotype and bilateral gonadoblastomas. Her treatment course, and the decision to leave her uterus intact, are outlined.

Patients with female phenotypes and dysgenetic gonads harboring testicular tissue have a significantly increased risk of developing gonadal tumors. This group of patients usually manifest general characteristics which include primary amenorrhea, greater than average height, eunuchoidal body proportions, persistent sexual infantilism, female external and internal genitalia and bilateral streak gonads. Pubertal development is unusual in these 46, XY gonadal dysgenetic individuals; however, it may occur in association with gonadal tumors.

This case report will illustrate and discuss several variations found in 46, XY gonadal patients. Additionally, if an intact, functional uterus is present, and preservation of reproductive function is desirable, some of these patients may be candidates for in-vitro fertilization/embryo transfer therapy.

Case Report

A 19-year-old single, nulligravid white woman was referred to the reproductive endocrinology service at the University of Missouri-Kansas City for evaluation of her primary amenorrhea. Prenatal, birth, and childhood histories were unremarkable. Breast development was noted at age 11, followed by growth of axillary and pubic hair. Menstruation had not occurred by age 16, but spotting was experienced at age 17 after administration of progesterone in oil.

The patient had three siblings (two sisters, one brother), and the females had no history of developmental problems. An assessment of the immediate and extended family tree revealed no individuals with gonadal, sexual, endocrinologic, or structural abnormalities.

On physical examination, the patient was a well-developed female, weighing 65 kg with a height of 175 cm. She had no stigmata of Turner's syndrome nor hirsutism. Pubic and axillary hair were present in normal amounts, with breast development corresponding to Tanner Stage IV.[1] On pelvic examination, external genitalia were normal, with no clitoromegaly. The vaginal canal was also normal and estrogenized. In addition, the cervix was nulliparous with mucus present, and a small, palpable uterus with no adnexal

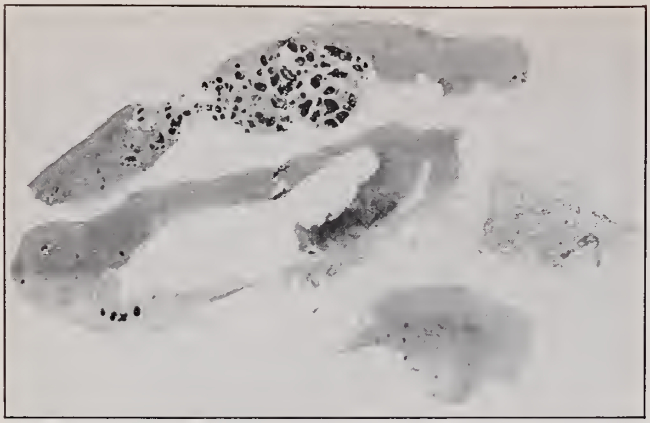

Figure 1. Right dysgenetic gonad reveals a typical ovarian stroma with nest of large, pale germ cells and smaller granulosa cells. Within the stroma are small islands of leydig cells with hilar cells containing reinke crystalloids.

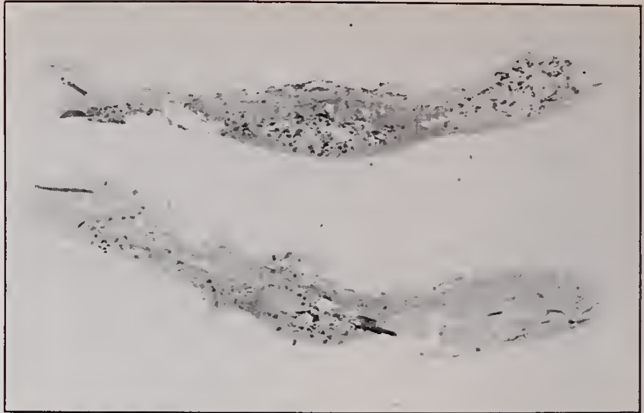

Figure 2. Left dysgenetic gonad contains stroma with large, pale eosinophilic and hylanized cells with histologic characteristics of septoli cells. There is significant calcification throughout the fields. No atypical characteristics were observed.

structures was found on bimanual examination. No abnormalities were found on rectovaginal examination.

Pertinent preoperative laboratory studies revealed a normal blood count, serum chemistries, and thyroid function test. Computed axial tomographic scan of the sella turcica was normal. Gonadotropin levels were elevated, with a luteinizing hormone (LH) level of 57μU (range 5-25 μU) and a follicle stimulating hormone (FSH) value greater than 100 μU (range 5-20 μU). Prolactin level was 13.7 ng/ml (range 0-20 ng), cortisol was 25 ng/ml (range 5-25 ng/ml), estradiol 45 pg/ml (range 50-300 pg/ml), testosterone 0.84 pg/ml (range 0.3-0.9 pg/ml), DHEAS 290 ng/ml (range 50-350 ng/ml) and a TSH 4.5 mg/ml (range 0-7 ng/ml).

Karyotypes of peripheral blood on two occasions revealed a nonmosaic 46, XY cytogenetic pattern. A normal Y-chromosome was present, with a positive $H\text{-}Y^+$ antigen test. A pelvic sonogram and intravenous pyelogram showed no abnormality of the pelvic structures or genitourinary tract. Administration of progesterone in oil resulted in spotting seven days later.

Prior to exploratory laparotomy, an examination under anesthesia revealed a normal-appearing, estrogenized vagina. Sounding of the uterus revealed a depth of 7 cm. Proliferative endometrium was evident from endometrial sampling. Exploratory laparotomy revealed a normal-appearing uterus and tubes with a small (non-streaked) left ovary and a grossly normal-appearing right ovary. No identifiable wolffian duct structures were present. Because of the presence of a Y-chromosome, bilateral gonadectomy with pelvic washings and omental biopsies were performed. An immediate frozen section revealed a right gonadoblastoma. Peritoneal washings were negative. The uterus was left intact.

Both gonadal specimens underwent decalcification and were sent to Robert Scully, M.D., a gynecologic pathologist who has published extensively in the area of ovarian neoplasms.[6, 7] Dr. Scully's histologic examination of both gonads revealed the following: Right dysgenetic gonad revealed ovarian stroma with nest of large germ cells and smaller granulosa cells. Within the stroma were small islands of leydig cells and hilar cells containing Reinke crystalloids (Fig. 1). Left dysgenetic gonad revealed extensive calcifications with large, pale eosinophilic and hylanized cells within the stroma characteristic of serotoli cells. Small islands of leydig cells were present with areas of ovarian stroma containing granulosa cells. No atypical characteristics were observed (Fig. 2).

Consultation with an oncologist suggested routine follow-up with no need for radiation or chemotherapy. Postoperative laboratory values revealed an estradiol level of 10pg/ml (Range 50-300 pg/ml), LH of 60 MIU (range 5-25 units), FSH of 84 μU (range 5-20 μU) and a testosterone level of 0.3 pg/ml (range 0.3-0.9 pg).

Discussion

In the vast majority of dysgenetic gonad cases, the clinical problems relate to diagnosis and endocrine status. Either gonadal sex steroids are not produced or they are produced in small amounts, thereby promoting only hypoplastic development of internal and external genitalia and underdevelopment of secondary sex characteristics.

It appears that this patient's estrogen levels were high enough to cause normal and complete development along female lines (Tanner V breast and pubic hair). Furthermore, this patient had a positive withdrawal response to a progesterone challenge, indicating endometrial growth and proliferation. A small number of authors have reported similar unusual female secondary sexual development in patients with 46, XY gonadal dysgenesis.[1-5] The estrone and estradiol levels in these patients were also found to be substantially decreased. Increased sensitivity to circulating estrogens has been postulated,[8] and breast development has been attributed to the conversion of dehydroepiandrosterone to estrogen in mammary tissue.[9]

Evidence that the patient's dysgenetic gonads were the source of sex steroids is provided by the fact that her serum estrogen and androgen levels dropped markedly postoperatively. It is postulated in this case that the relative deficiency of endogenous estrogen caused elevation of pituitary gonadotropins and that the hypothalamic pituitary ovarian axis feedback mechanism was intact, as shown by the decrease in LH and FSH levels in response to estrogen replacement therapy.

One of the most common tumors associated with the dysgenetic gonad is the gonadoblastoma. Most frequently, this is noted in the phenotypic female with a Y-chromosome. Although not truly a germ cell tumor, the germ cells contained within the neoplasm seem to be at great risk of undergoing malignant change. The incidence of developing a germ cell tumor varies from a reported 20% to 30% in these dysgenetic gonads.[10] In half of the cases, a seminoma or dysgerminoma develops. Less frequently, a more malignant germ cell tumor such as embryonal carcinoma or choriocarcinoma may arise. In a study by Wachtel[11] surveying some 60 cases of XY gonadal dysgenesis, gonadal tumors were detected only in the H-Y$^+$ group. Therefore, the present patient with an XY karyotype and an H-Y$^+$ phenotype would appear to be a prime candidate for the development of a gonadoblastoma.

The presence of a Y-chromosome in the karyotype requires laparotomy and excision of the gonads on the basis that the presence of any medullary (testicular) component within the gonad is a predisposing factor to tumor formation. Only in the patient with the complete form of testicular feminization can laparotomy be deferred until after puberty. In all other patients with a Y-chromosome, gonadectomy should be performed before puberty to avoid malignant transformation and/or virilization. One should be aware that 30% of patients with a Y-chromosome will not develop any signs of virilization.[12] Therefore, even the normal-appearing adult patient with elevated serum levels of gonadotropins must be karyotyped to detect a silent Y-chromosome, so that prophylactic gonadectomy can be performed before neoplastic changes occur.

Because this patient expressed a desire for future childbearing, and in light of the low malignant potential (approximately 25%) of these gonadal tumors, it was decided to leave her uterus intact. With the present advances in in-vitro fertilization/embryo transfer techniques, and the ability to synchronize this patient's cycles with those of a fertile ovum donor, her changes for future reproduction are certainly enhanced.

Therefore, based on this case and on other similar cases, the author recommends that chromosomal analysis be performed early in the investigation of primary amenorrhea and that phenotypic females with a Y sex chromosome or H-Y$^+$ phenotype be considered for gonadectomy. It appears that a positive withdrawal bleeding response to exogenous progestin administration does not rule out the existence of a significant pathologic condition or the absence of a Y-chromosome. Additionally, the possibility of uterine conservation for future reproduction should be discussed with the patient and family in light of today's current technologies and the low malignant potential of these tumors.

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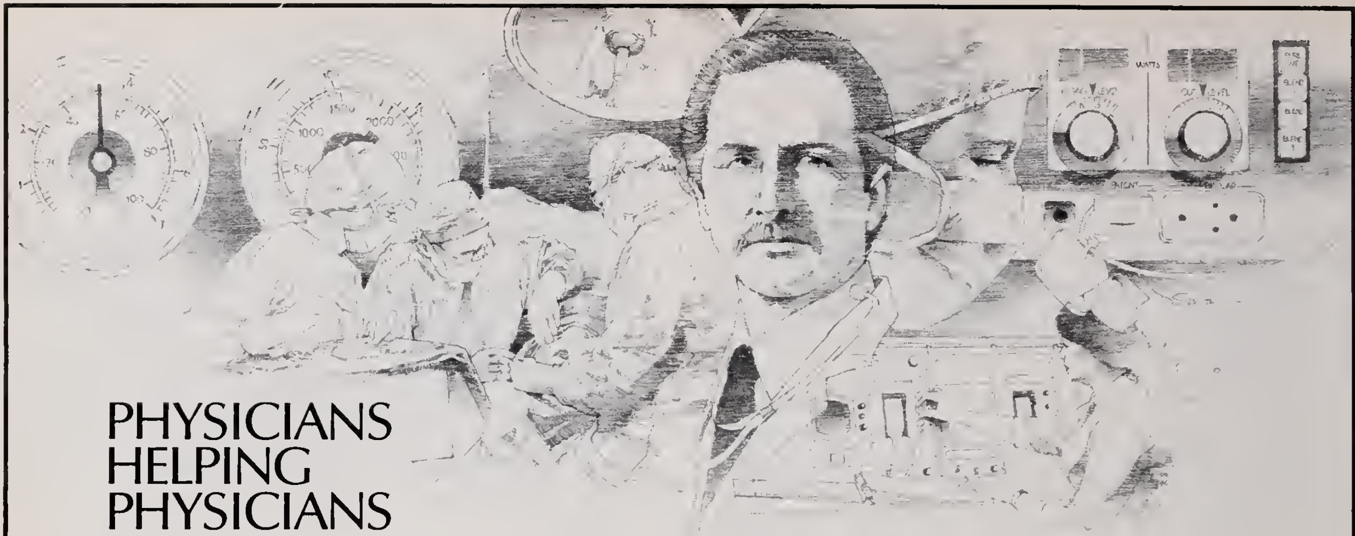

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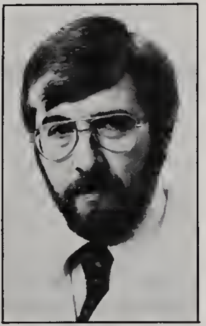
Medical School News

St. Louis University



■ **James W. Fletcher, M.D.,** professor of medicine and acting director, division of nuclear medicine, St. Louis University School of Medicine, has been appointed program official and director of nuclear medicine for the U.S. Veterans Administration department of medicine and surgery. The program provides direction for patient care, education and research in conjunction with local service chiefs in 130 VA medical centers throughout the nation that have on-site nuclear medicine services.

Dr. Fletcher has served as chief of nuclear medicine service since 1979 and director of operations for nuclear magnetic resonance since 1983 at the St. Louis Veterans Administration Medical Center (VAMC) and will continue in these roles.

Dr. Fletcher received his medical degree from St. Louis University School of Medicine. He completed post-graduate training at St. Louis University and Harvard Medical School and is certified by the American Board of Nuclear Medicine. Dr. Fletcher has served on the faculty of St. Louis University School of Medicine and has been a physician in the department of medicine and surgery at the St. Louis VAMC since 1972.

■ **Terry V. Zenser, Ph.D.,** professor, department of internal medicine and associate professor, department of biochemistry, St. Louis University School of Medicine, has been awarded a $100,000 grant from the American Cancer Society. This two-year grant will address the metabolism of the kidney and cancer of the kidney which accounts for two to four percent of the cancers found in humans.

The research is being conducted in the St. Louis Veterans Administration Medical Center where Dr. Zenser is coordinator of the geriatric research, education and clinical center (GRECC). **Bernard B. Davis, M.D.,** chief of medicine and GRECC director at the VA Medical Center and professor of medicine at St. Louis University School of Medicine, has participated in this multidisciplinary project.

Dr. Zenser obtained his doctorate degree in biochemistry from the University of Missouri, Columbia, and has been with the St. Louis University School of Medicine since 1976.

■ The Cancer Research Institute has awarded $27,000 to **Richard Greenberg, M.D.,** assistant professor of medicine and microbiology, St. Louis University School of Medicine. The grant is for a one-year period.

Streptococcal exotoxins may have an important role in directing the human immune system to reject certain malignancies. The research, being conducted by Dr. Greenberg and his staff, will attempt to purify certain of these streptococcal exotoxins and test them in a variety of assays to determine whether or not purified exotoxins may be helpful in the treatment of cancer.

Dr. Greenberg obtained his medical degree at Tufts University in Boston, Mass., and has conducted extensive research in the area of infectious disease. Dr. Greenberg's research laboratory is located at the John Cochran Veterans Administration Medical Center.

■ A three-year, $248,680 grant has been awarded to **James E. Swierkosz, Ph.D.,** assistant professor of microbiology at St. Louis University School of Medicine. The grant was awarded by the National Cancer Institute.

Dr. Swierkosz is researching the regulation of antibody production. The study focuses on the T-suppressor cell and a protein it produces that stops the creation of all types of B cell antibodies. The overproduction of B cell antibodies can result in a variety of auto-immune disorders including rheumatoid arthritis, lupus and also various allergies.

Dr. Swierkosz earned his doctorate degree in immunology and microbiology from Wayne State University School of Medicine in Detroit, Mich. He has been at St. Louis University Medical Center since 1979.

■ On March 18 **Arnold S. Relman, M.D.,** professor of medicine at Harvard Medical School, and editor of *The New England Journal of Medicine*, presented the 14th Annual Reverend John J. Flanagan, S.J. Lecture in Hospital Administration.

Dr. Relman, who is past president of the Association of American Physicians, presented his lecture titled "The Revolution in Health Care." He is nationally recognized for his views on proprietary health care.

The Flanagan Lecture is sponsored each year by the Alumni Association of the Center for Health Services, Education, and Research at St. Louis University Medical Center. It recognizes the **Rev. John J. Flanagan, S.J.,** who founded the department in 1947, for his outstanding contribution to graduate education in hospital administration.

■ **Linda Carpenter, Ph.D.,** has been named director of Focus, a new program at St. Louis University Medical Center, which will provide psychotherapy and educational services to individual women and consultation services to organizations to assist in the management of the two-gender work force. The program is in the division of behavioral medicine in the department of psychiatry.

The program will draw upon the resources of the division of behavioral medicine to supplement these services.

Dr. Carpenter received her doctoral degree from the University of Cincinnati. Before joining St. Louis University Medical Center, she worked as a management consultant and psychotherapist for a firm offering organizational and psychological consultation, personnel assessment services, and psychotherapy.

■ **Morton M. Weber, Sc.D.,** professor and chairman in St. Louis University School of Medicine's department of microbiology, was recently elected to membership in the Johns Hopkins Society of Scholars. The society was established in 1967 to honor distinguished former postdoctoral fellows of The Johns Hopkins University. Members must have gained distinction in their fields of scholarly or professional interest.

Dr. Weber joined the faculty at the school of medicine in 1959 and was named chairman of the department of microbiology in 1964. Before that time, he was on the faculty in the department of microbiology at The Johns Hopkins School of Medicine and Harvard Medical School.

■ **Lawrence M. Lewis, M.D.**, has been appointed director of the emergency trauma division at The University Hospital of St. Louis University Medical Center.

Dr. Lewis has been a member of the hospital's clinical faculty since 1982. He has served as co-director of the division for the past year and associate director from 1982 to 1984.

A native of Miami, Fla., Dr. Lewis received his medical degree from the University of Miami School of Medicine in 1976. He is a member of the American College of Emergency Physicians and an instructor of Advanced Cardiac Life Support and Advanced Trauma Life Support courses.

■ The University Hospital is a Level 1 Trauma Center, treating trauma that ranges from minor injuries to life-threatening multiple-systems trauma. Construction is now underway of a $56 million replacement project for the hospital which will further complement the tertiary care provided by the medical center.

University of Missouri-Kansas City

■ UMKC School of Medicine fared well in the 1986 National Residency Match once again. Seventy-seven percent of the School's participants received their first or second choice, a figure above the national average. Thirty-four members of the graduating class will remain in the state of Missouri for their residency training, with the remainder of the class distributed around the country. Internal medicine was the most frequently chosen specialty field, with 31 UMKC students entering this field, followed by 10 students entering a transitional year. Other most frequently chosen specialties included general surgery, radiology, and family practice.

■ **Mrs. Adele C. Hall** was selected as this year's Carl Migliazzo Memorial Lecturer at UMKC School of Medicine. Mrs. Hall is known for her community leadership in many areas. She not only is affiliated with Hallmark Cards of Kansas City, but is past president and currently a member of the Central Governing Board of The Children's Mercy Hospital. Mrs. Hall is scheduled to present the Migliazzo Lecture on May 30, the School of Medicine's commencement day.

■ **Eugene Stead, M.D.**, covered a full gamut of subjects during his March 27-28 visit to UMKC School of Medicine. Dr. Stead, who was the keynote speaker at the Alpha Omega Alpha (AΩA) induction ceremony on March 28, made two other presentations as well. Dr. Stead currently holds the title of Florence McAlister Professor Emeritus of Medicine at Duke University, Durham, N.C., and is held in wide esteem for his contributions to medical education. Dr. Stead's message to AΩA members was, "Be Sure To Have Fun While Doctoring," He also presenting "Academic Medical Center as Seen By a Georgia Boy," and as the topic for the Stanley Reitman, M.D. Memorial Lectureship, Dr. Stead presented "Growing Up is Difficult: What I Know, What You May Not Know."

■ In March, Truman Medical Center's Department of Medicine brought together faculty, students, and residents at UMKC School of Medicine to hear summaries of ongoing research. About 60 people gathered to hear and present the Department of Medicine's activities.

■ Humorist, author and clinical practitioner **Peter G. Hanson, M.D.**, spoke April 17 at UMKC School of Medicine. Dr. Hanson, author of *The Joy of Stress: How To Live Well Past 100*, is known for mixing his medical knowledge and his humor to show how stress can be used as a positive aspect of life. The presentation was sponsored by the School of Medicine's Women's Support Group in conjunction with the UMKC Women's Center.

■ With the establishment of permanent national headquarters in Kansas City, the American College of Clinical Pharmacy (ACCP) has chosen **Robert Elenbaas, Pharm.D.**, as the group's first executive secretary. Dr. Elenbaas is associate professor of Clinical Pharmacy with UMKC's schools of Medicine and Pharmacy, and clinical pharmacist for the Emergency Health Services Department at Truman Medical Center. The ACCP is an international society founded in Kansas City in 1979, and currently has a membership of more than 600 pharmacy practitioners in the United States, Canada, and Europe.

■ UMKC School of Medicine student **Maria deCastro** recently was named as a recipient of a UMKC Alternate Phi Kappa Phi Scholar Award for 1986. The award was presented at Phi Kappa Phi's annual initiation ceremony April 27.

■ **Ms. Barbara Brittan** recently joined the UMKC School of Medicine staff as Year 1-2 docent team assistant. Ms. Brittan previously has been on the staffs of Creighton University, Omaha, and George Washington University, Washington, D.C.

The University of Missouri-Columbia

■ **Charlotte M. Balcer, M.D.**, resident physician in psychiatry, was appointed to the American Academy of Psychiatry's membership committee to represent all U.S. trainees in psychiatry.

■ **James Barthel, M.D.**, assistant professor of medicine, has received a one-year grant of $5,000 from the American College of Gastroenterology for a study of "The Role of Campylobacter-like Organisms in Gastritis and Ulcer Disease."

■ **Shivendra D. Shukla, Ph.D.**, assistant professor of pharmacology, has received a three-year, $272,193 grant from the National Institutes of Health to support the study "PAF Stimulated Phosphoinositide Turnover in Platelets."

■ **Travis Solomon, M.D.**, professor of medicine, has received a three-year grant of $196,597 from the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases for his study, "Role of Cholecystokinin in Gastrointestinal Function."

■ **Margaret Flynn, Ph.D.**, professor of family and community medicine, has received a two-year $38,000 grant from the Wallace Genetic Foundation for "Longitudinal Study of Aging: Changes in Risk and Non-Risk Indices."

■ **Bruce Harry, M.D.**, assistant professor of psychiatry and adjunct assistant professor of law, presented two papers at a meeting of the American Academy of Psychiatry and Law held this February in New Orleans. The papers were entitled "Survivalists" and "A Diagnostic Study of Criminals Who Use Aliases."

- A high percentage of University of Missouri-Columbia (UMC) medical students placed with their first or second residency choices this year.

Ninety-six UMC fourth-year medical students took part in the National Resident Matching Program along with almost 15,000 medical school seniors from across the country. Through the program a computer matches students with hospitals for one to five years of post-graduate training in a chosen medical specialty. Seventy-five percent of UMC students matched with their first or second choices.

The placements ranged from New Jersey and Massachusetts to Florida, California and Washington, with 42 students staying in Missouri. Of those staying in the state, 21 will be residents at the UMC Hospitals and Clinics, 15 will be in St. Louis and six will go to Kansas City hospitals.

- Research on topics ranging from whooping cough to the cardiovascular system garnered awards in this year's Student Research Day at the University of Missouri-Columbia School of Medicine.

Forty medical and graduate students presented their research findings during the 22nd annual event, held Wednesday, March 5, 1986.

- **John M. Wightman,** a first-year medical student from Columbia, won first place in the competition among medical students for his study of the effects of enkephalin on the cardiovascular system.

- **John A. Flynn,** a fourth-year medical student from St. Louis, took second place in the medical competition for his study of the cancer-fighting drug, bleomycin.

- **John E. Wipfler,** who is a second-year medical student from St. Charles, won third place in the same competition for his study of how a partially obstructed pancreatic duct may cause pancreatitis.

- First place in the graduate student research competition went to **Rebecca V. Ferrell,** a microbiology graduate student from Columbia. Ms. Ferrell's winning research shows genetic similarities in two bacteria which cause diseases in swine.

- **Sandra K. Armstrong,** also a microbiology student from Columbia, won second place in the graduate competition for her findings, which may help in the search for a new whooping cough vaccine.

- **Vicki L. Tucker,** who is a physiology graduate student from Lincoln, Nebraska, won third place in the graduate competition for her research on the effect of oxygen on capillary permeability.

- A UMC medical student has won a regional award for his research on a special type of kidney dialysis.

Tom Levin, a second year medical student from St. Louis, has won first prize in the medical student category at the Midwest Student Medical Research Forum in Ann Arbor, Michigan. He will receive a cash prize of $700, plus the opportunity to compete at the National Forum in Galveston, Texas later this year.

Washington University

- The McDonnell Douglas Corporation has donated a computer system to aid hearing research in the department of otolaryngology at Washington University School of Medicine.

The equipment, made by Data General Corporation, is being given to the Cochlear Implant Program. It will be used in a clinical trial that will help answer the most important question in cochlear implant research today: What type of speech processing is most beneficial to a particular patient? The research will not only enhance service to deaf people who are not helped by conventional hearing aids, but will also provide information essential to the design of future implants.

School of Medicine investigators are conducting the clinical trial with researchers from the University of California-San Francisco, Duke University and Research Triangle Institute. At Washington University the study is headed by **John M. Frederickson, M.D.,** Lindburg Professor and head of the department of otolaryngology, and **Margaret W. Skinner, Ph.D.,** director of audiological services and assistant professor of otolaryngology. They are collaborating with researchers at Storz Instrument Company of St. Louis and at Central Institute for the Deaf at Washington University Medical Center.

Dr. Frederickson initiated the School of Medicine's Cochlear Implant Program in 1984, and is conducting research as well on a middle ear implantable hearing aid. Dr. Skinner has worked since 1974 to help the hearing impaired by refining procedures for fitting laboratory and commercial hearing aids.

- The employees of McDonnell Douglas, through their Employee Charity and Community Services Program, have donated $15,000 to Washington University School of Medicine in St. Louis to help support research on epidermolysis bullosa (EB), the "thin skin" disease.

The medical school's EB center is one of the few sites in the nation to study this rare genetic skin disorder that blisters, scars, and destroys the skin and mucous membranes. Fourteen varieties of EB threaten the lives of 25,000-50,000 Americans, most of them children. Under the direction of **Eugene A. Bauer, M.D.,** Washington University researchers hope to develop a cure or more effective treatment.

Dr. Bauer is professor of dermatology at the medical school and a physician at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

- **Peter H. Raven, Ph.D.,** Engelmann Professor of Botany at Washington University and director of the Missouri Botanical (Shaw's) Garden, delivered the second Henry G. Schwartz Lectureship in March at the Washington University School of Medicine. Dr. Raven discussed "Biology and the Human Prospect."

Dr. Raven was named a 1985 MacArthur Fellow by the John D. and Catherine T. MacArthur Foundation of Chicago. The award provides a $240,000 fellowship for five years of personal research.

He has been director of Shaw's Garden since 1971. Under his leadership, it has sponsored the largest private research effort in tropical plant biology in the world.

- **David F. Silbert, M.D.,** professor of biological chemistry at the Washington University School of Medicine, has received renewed funding from the American Cancer Society.

A grant totaling $85,000 will be used to support Dr. Silbert's research program, "Sterol and the Biogenesis and Function of Surface Membranes."

Dr. Silbert joined Washington University as an American Cancer Society postdoctoral fellow in the Department of Biological Chemistry in 1966. He was named assistant professor of biological chemistry in 1968 and associate professor of biological chemistry in 1973. He became full professor in 1977.

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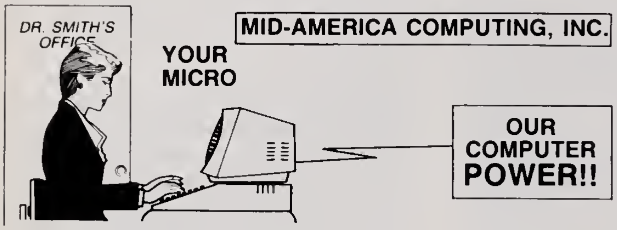
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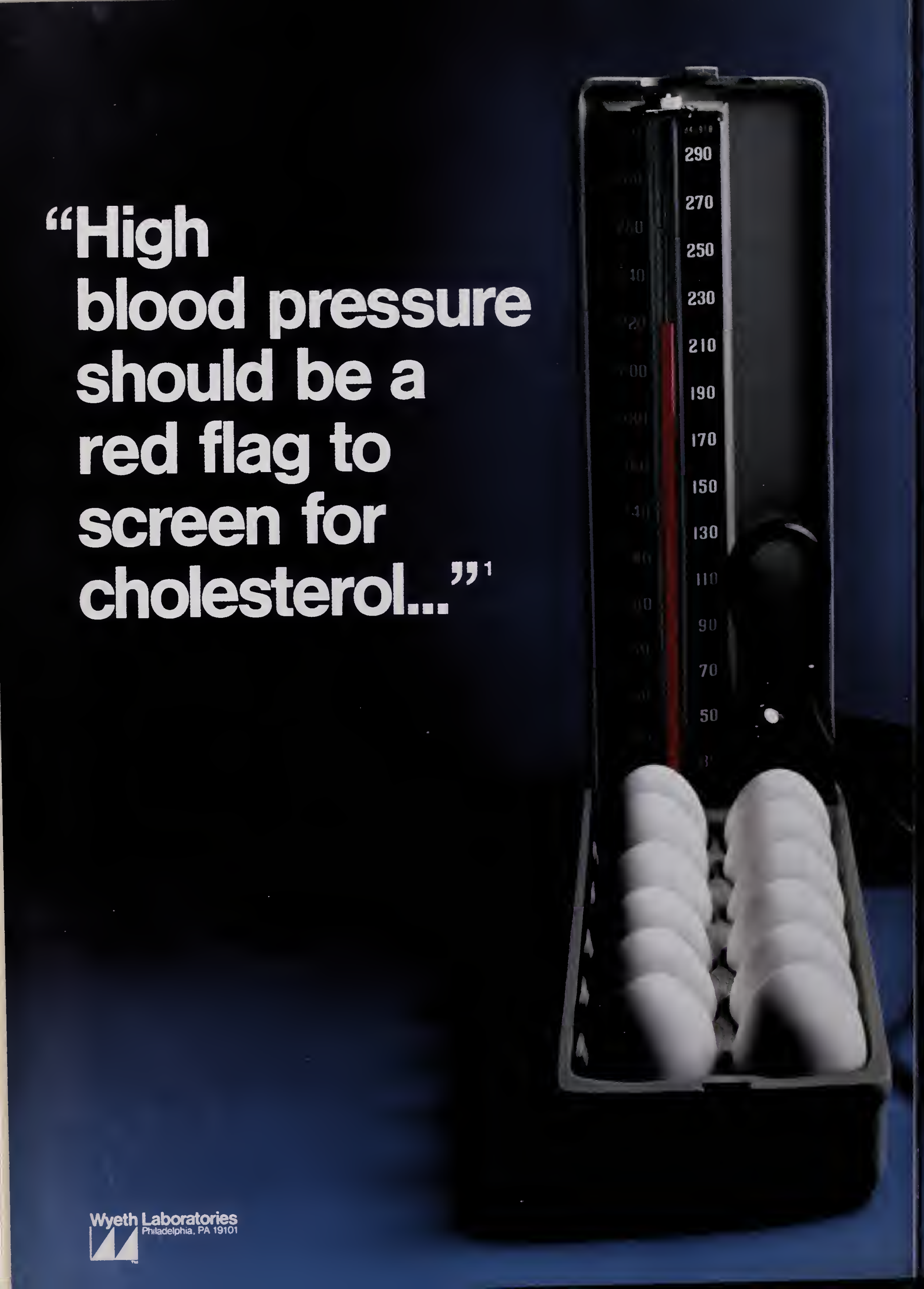
"High blood pressure should be a red flag to screen for cholesterol..."[1]
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At the same time, Wytensin lowered blood pressure as effectively as hydrochlorothiazide, propranolol, clonidine or methyldopa. Drowsiness and/or dry mouth, the most frequent side effects noted with Wytensin, usually diminish or disappear over time. In fact, in double-blind studies to date, discontinuance of therapy for all side effects occurred in about 13% of patients.

WyTensin®
(guanabenz acetate)

Antihypertensive therapy that does not increase cholesterol

See important information on following page.

References: 1 Glueck CJ: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 2. *The Framingham Study, An epidemiological investigation of cardiovascular disease*, Section 28, U.S. Dept. of Health, Education, and Welfare. 3. National Institutes of Health Consensus Development Conference Statement, 1984: Vol 5, No 7, p 4. 4. Chobanian AV: The influence of hypertension and other hemodynamic factors in atherogenesis. *Progress in Cardiovascular Diseases, XXVI* (3): 177, Nov/Dec, 1983. 5. Castelli WP: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 6. Data on file, Wyeth Laboratories.

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WyTensin®
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Antihypertensive therapy
that does not increase cholesterol

Brief Summary

Before prescribing, consult the complete package circular.

Indications and Usage: Treatment of hypertension, alone or in combination with a thiazide diuretic

Contraindication: Known sensitivity to the drug

Precautions: 1. Sedation Causes sedation or drowsiness in a large fraction of patients When used with centrally active depressants, e g , phenothiazines, barbiturates and benzodiazepines, consider potential for additive sedative effects 2 Patients with vascular insufficiency Like other antihypertensives use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease, or severe hepatic or renal failure. 3 Rebound: Sudden cessation of therapy with central alpha agonists like **Wytensin** may rarely result in "overshoot" hypertension and more commonly produces increase in serum catecholamines and subjective symptomatology

INFORMATION FOR PATIENTS Advise patients on **Wytensin** to exercise caution when operating dangerous machinery or motor vehicles until it is determined they do not become drowsy or dizzy Warn patients that tolerance for alcohol and other CNS depressants may be diminished Advise patients not to discontinue therapy abruptly

LAB TESTS In clinical trials, no clinically significant lab test abnormalities were identified during acute or chronic therapy Tests included CBC, urinalysis, electrolytes, SGOT, bilirubin, alkaline phosphatase, uric acid, BUN, creatinine, glucose, calcium, phosphorus, total protein, and Coombs' test During long-term use there was small decrease in serum cholesterol and total triglycerides without change in high-density lipoprotein fraction In rare instances occasional nonprogressive increase in liver enzymes was observed, but no clinical evidence of hepatic disease

DRUG INTERACTIONS **Wytensin** was not demonstrated to cause drug interactions when given with other drugs, e g , digitalis, diuretics, analgesics, anxiolytics, and antiinflammatory or antiinfective agents, in clinical trials However, potential for increased sedation when given concomitantly with CNS depressants should be noted

DRUG/LAB TEST INTERACTIONS No lab test abnormalities were identified with **Wytensin** use

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY No evidence of carcinogenic potential emerged in rats during a two-year oral study with **Wytensin** at up to 9 5 mg/kg/day, i e , about 10 times maximum recommended human dose In the Salmonella microsome mutagenicity (Ames) test system, **Wytensin** at 200-500 mcg per plate or at 30-50 mcg/ml in suspension gave dose-related increases in number of mutants in one (TA 1537) of five *Salmonella typhimurium* strains with or without inclusion of rat liver microsomes No mutagenic activity was seen at doses up to those which inhibit growth in the eukaryotic microorganism, *Schizosaccharomyces pombe*, or in Chinese hamster ovary cells at doses up to those lethal to the cells in culture In another eukaryotic system, *Saccharomyces cerevisiae*, **Wytensin** produced no activity in an assay measuring induction of repairable DNA damage Reproductive studies showed a decreased pregnancy rate in rats given high oral doses (9 6 mg/kg), suggesting impairment of fertility Fertility of treated males (9 6 mg/kg) may also have been affected, as suggested by decreased pregnancy rate of mates, even though females received drug only during last third of pregnancy

PREGNANCY Pregnancy Category C WYTENSIN® MAY HAVE ADVERSE EFFECTS ON FETUS WHEN ADMINISTERED TO PREGNANT WOMEN A teratology study in mice indicated possible increase in skeletal abnormalities when **Wytensin** is given orally at doses 3 to 6 times maximum recommended human dose of 1 0 mg/kg These abnormalities, principally costal and vertebral, were not noted in similar studies in rats and rabbits However, increased fetal loss has been observed after oral **Wytensin** given to pregnant rats (14 mg/kg) and rabbits (20 mg/kg) Reproductive studies in rats have shown slightly decreased live-birth indices, decreased fetal survival rate, and decreased pup body weight at oral doses of 6 4 and 9 6 mg/kg There are no adequate, well-controlled studies in pregnant women **Wytensin** should be used during pregnancy only if potential benefit justifies potential risk to fetus

NURSING MOTHERS Because no information is available on **Wytensin** excretion in human milk, it should not be given to nursing mothers

PEDIATRIC USE Safety and effectiveness in children less than 12 years of age have not been demonstrated, use in this age group cannot be recommended

Adverse Reactions: Incidence of adverse effects was ascertained from controlled clinical studies in U S and is based on data from 859 patients on **Wytensin** for up to 3 years There is some evidence that side effects are dose-related Following table shows incidence of adverse effects in at least 5% of patients in study comparing **Wytensin** to placebo, at starting dose of 8 mg b i d

Adverse Effect	Placebo (%) n = 102	**Wytensin** (%) n = 109
Dry mouth	7	28
Drowsiness or sedation	12	39
Dizziness	7	17
Weakness	7	10
Headache	6	5

In other controlled clinical trials at starting dose of 16 mg/day in 476 patients, incidence of dry mouth was slightly higher (38%) and dizziness was slightly lower (12%), but incidence of most frequent adverse effects was similar to placebo-controlled trial Although these side effects were not serious, they led to discontinuation of treatment about 15% of the time In more recent studies using an initial dose of 8 mg/day in 274 patients, incidence of drowsiness or sedation was lower, about 20% Other adverse effects reported during clinical trials but not clearly distinguishable from placebo effects and occurring with frequency of 3% or less Cardiovascular—chest pain, edema, arrhythmias, palpitations Gastrointestinal—nausea epigastric pain, diarrhea, vomiting, constipation, abdominal discomfort Central nervous system—anxiety, ataxia, depression, sleep disturbances ENT disorders—nasal congestion Eye disorders—blurring of vision Musculoskeletal—aches in extremities, muscle aches Respiratory—dyspnea Dermatologic—rash, pruritus Urogenital—urinary frequency, disturbances of sexual function Other—gynecomastia, taste disorders

Drug Abuse and Dependence: No dependence or abuse has been reported

Overdosage: Accidental ingestion caused hypotension, somnolence, lethargy, irritability, miosis, and bradycardia in two children aged one and three years Gastric lavage and pressor substances, fluids, and oral activated charcoal resulted in complete and uneventful recovery within 12 hours in both Since experience with accidental overdosage is limited, suggested treatment is mainly supportive while drug is being eliminated and until patient is no longer symptomatic Vital signs and fluid balance should be carefully monitored Adequate airway should be maintained and, if indicated, assisted respiration instituted No data are available on **Wytensin** dialyzability

Dosage and Administration: Individualize dosage A starting dose of 4 mg b i.d is recommended, whether used alone or with a thiazide diuretic Dosage may be increased in increments of 4 to 8 mg/day every one to two weeks, depending on response Maximum dose studied has been 32 mg b i d., but doses this high are rarely needed.

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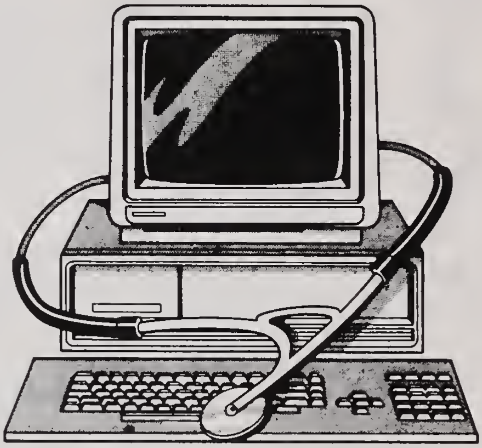

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New Members

■ **Janis Ashley, M.D.,** 1718 S. Ingram, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Ashley received her preliminary education at the Oklahoma City University and her medical degree at the University of Oklahoma in 1978. She completed her residency training at the University of Missouri-Columbia. She specializes in pediatrics.

■ **Danny L. Bennett, M.D.,** 4177 Broadway, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Bennett received his preliminary education at California State University and his medical degree at the University of California-Irvine in 1976. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in otolaryngology.

■ **John F. Best, M.D.,** 3231 S. National, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Best received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1977. He completed his residency training at the University of Kansas Medical Center. He specializes in cardiology.

■ **Joel N. Cohen, M.D.,** Suite 340, 2928 Main, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Cohen received his preliminary education at the University of Wisconsin and his medical degree at the University of Wisconsin in 1981. He completed his residency at the University Hospital, Madison, Wisc. He specializes in radiation oncology.

■ **Stephen R. Curry, M.D.,** 1000 E. Primrose #430, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Curry received his preliminary education at Wayne State University and his medical degree at the University of Michigan in 1977. He completed his residency training at the University Hospitals, Cleveland, Ohio. He specializes in anesthesiology.

■ **Jean H. Ellis, M.D.,** 205 West Rd., Mize Rd., Blue Springs 64015, has become a member of the Jackson County Medical Society. Dr. Ellis received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1981. She completed her residency at St. Mary's and Mayo in Rochester, Minn. She specializes in ophthalmology.

■ **Robert M. Glueck, M.D.,** 4949 Rockhill Rd., Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Glueck received his preliminary education at Harvard College and his medical degree at Harvard Medical School in 1977. He completed his residency training at Northwestern Memorial Hospital, Chicago, Ill. He specializes in internal medicine.

■ **James L. Hilburn, M.D.,** 219 N. Main, PO Box 418, Republic 65738, has become a member of the Greene County Medical Society. Dr. Hilburn received his preliminary education at Arkansas Tech University and his medical degree at the University of Arkansas in 1978. Dr. Hilburn completed his residency training at the Walter Reed Army Institute of Research. He specializes in public health and general preventive medicine.

■ **Eugene F. Hughes, Jr., M.D.,** Lester G. Cox Regional Cancer Center, 1423 N. Jefferson, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Hughes received his preliminary education at Portland State University and his medical degree at the University of Oregon in 1975. He completed his residency training at the University of Oregon Health Sciences Center, Portland, Oregon. He specializes in radiation therapy.

■ **Roger P. Jackson, M.D.,** Suite 340, 2700 Hospital Drive, Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Jackson received his preliminary education at the University of Kansas and his medical degree at the University of Missouri-Columbia in 1973. He completed his residency training at the Kansas University Medical Center. He specializes in orthopedic surgery.

■ **Mahinda A. Jayaratna, M.D.,** Fulton State Hospital, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Jayaratna received his preliminary education at Mahinda College and his medical degree at the University of Ceylon in 1972. He completed his residency training at the University of Missouri-Columbia in 1986. He specializes in psychiatry.

■ **E. Collyer Kelling, M.D.,** 609 Cherry, Suite 403, Springfield 65806, has become a member of the Greene County Medical Society. Dr. Kelling received his preliminary education at Harvard University and his medical degree at the University of Kansas in 1975. He completed his residency training at St. Luke's Hospital, Kansas City. He specializes in diagnostic radiology.

■ **W. Joseph Ketcherside, M.D.,** Suite 425, 2929 Baltimore, Kansas City 64108, has become a member of the Clay-Platte County Medical Society. Dr. Ketcherside received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Chicago in 1979. He completed his residency training at the University of Kansas Medical Center. He specializes in neurosurgery.

■ **John E. Krettek, M.D.,** 224 S. Woods Mill Rd., Suite 610, Chesterfield 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Krettek received his preliminary education at Regis College and his medical degree at Washington University in 1976. He completed his residency training at the University of California, Los Angeles. He specializes in neurosurgery.

■ **Steven T. Krueckeberg, M.D.,** 1443 N. Robberson, Suite 208, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Krueckeberg received his preliminary education at Indiana University and his Medical degree at Indiana University in 1980. He completed his residency training at the University of Nebraska Medical Center, Omaha, Nebr. He specializes in diagnostic radiology.

■ **Robert L. McLaurin, Jr., M.D.,** 1900 S. National North Wing, Suite 1960, Springfield 65804 has become a member of the Greene County Medical Society. Dr. McLaurin received his preliminary education at Emory University and his medical degree at the University of Cincinnati in 1981. He completed his residency training at Baylor College of Medicine in Houston, Texas. He specializes in therapeutic radiology.

■ **Rosalie Pompushko, M.D.**, Suite 105, 4706 Broadway, Kansas City 64112, has become a member of the Jackson County Medical Society. Dr. Pompushko received her medical degree at the Medical Institute, Odessa, USSR in 1969. She completed her residency training at Western Missouri Mental Health Center, Kansas City. She specializes in psychiatry.

■ **Rodney D. Quinn, M.D.**, 1443 N. Robberson, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Quinn received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. He completed his residency training at the University of Iowa. He specializes in neurology.

■ **Larry A. Wade, M.D.**, 1900 S. National, Suite 3300, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Wade received his preliminary education at Harding University and his medical degree at the University of Missouri-Columbia, in 1979. He completed his residency training at Good Samaritan Medical Center. He specializes in psychiatry.

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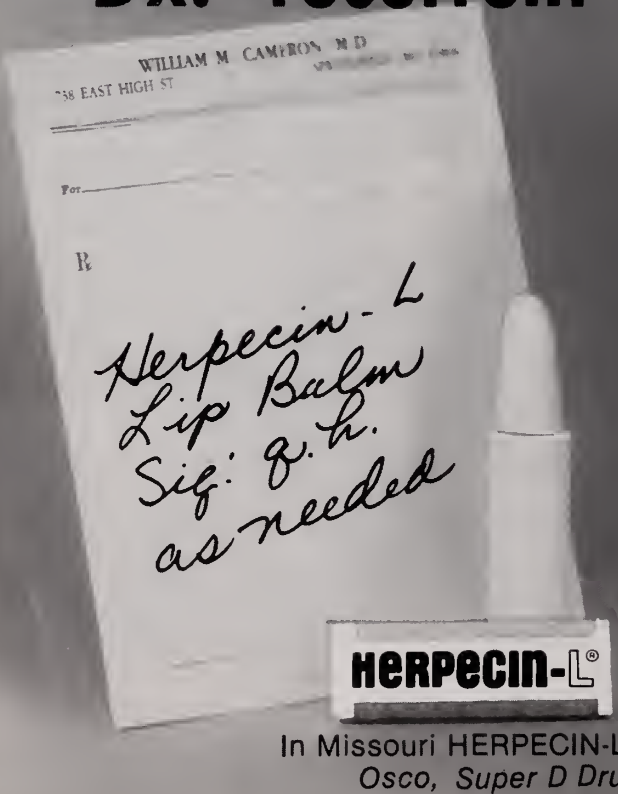

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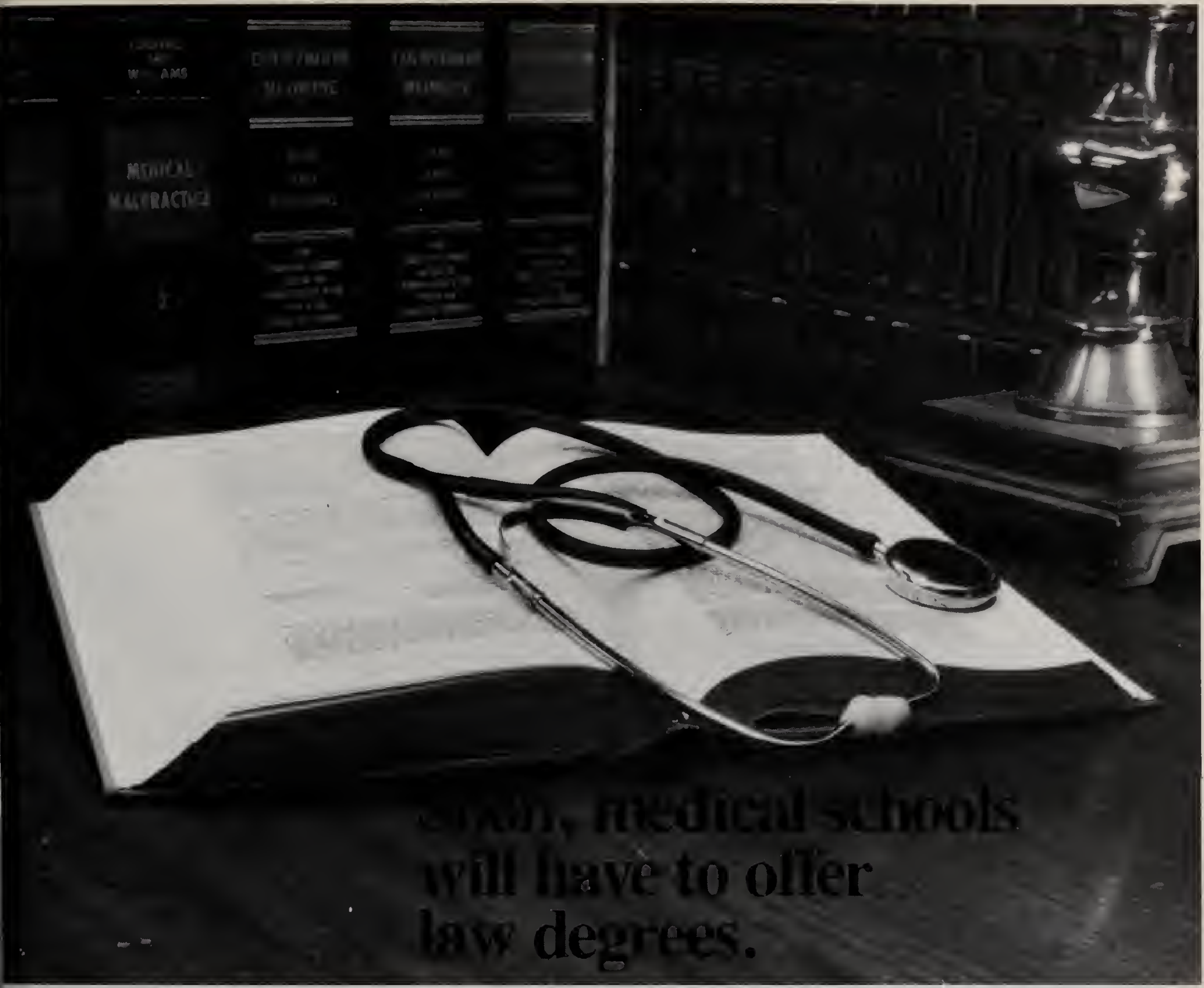

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The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

May

9 **Stroke** — Location: Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

9-10 **Adult Children of Alcoholics** — Location: Lester E. Cox Medical Center. Contact: Dick Dillon, Lester E. Cox Medical Center, 1423 N. Jefferson Ave., Springfield, MO 65802. 417/836-3269.

9-10 **Symposium on Rectal and Anal Cancer** — Location: Jewish Hospital at Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

9-11 **Ninth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia School of Medicine, CME, MA215 Health Sciences Center, Columbia 65212. 314-882-4105.

12 **City-Wide Radiology Conference on "Managing a Radiology Department"** — Location: Mallinckrodt Institute of Radiology, St. Louis. Contact: Ronald G. Evens, M.D., Mallinckrodt Institute of Radiology, 510 South Kingshighway Blvd., St. Louis 63110. 314-362-7100.

13-14 **Infection Control: How Do We Live with AIDS?** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

17 **First Annual Anesthesia Symposium** — Location: St. Louis. Contact: Christian Hospital, Anesthesia Dept., 11133 Dunn Rd., St. Louis 63136. 314/355-2300, ext. 5022.

17 **Annual Spring Scientific Seminar on Pathology** — Location: Rieke Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

22-23 **Group Skills for Human Service Workers** — Location: Lester E. Cox Hospital, Springfield. Contact: Weldon D. Webb, CME Office, University of Missouri-Columbia, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

June

4 **Pulmonary Disease** — Location: The Ed Bixby Institute for Postgraduate Education. Contact: Jane L. Jackson, Director of Seminars, 2316 East Meyer Blvd., Kansas City 64132. 816-276-4306.

6-7 **First Annual Pediatric Conference** — Location: University of Missouri-Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

6-7 **Annual Update in Pediatrics** — Location: St. Louis Embassy Suites Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

20 **Symposium on ACE Inhibitors** — Location: Kansas City Crown Center. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA 215 Health Sciences Center, Columbia 65212. 314/882-4105.

July

10-13 **Fifth Annual Summer Medical Symposium: "Medicine for the Practicing Physician"** — Location: Broadmoor Hotel, Colorado Springs, Colo. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913/588-4480.

13 **SIDS (Sudden Infant Death Syndrome)** — Location: MA217 CME Auditorium, UMC. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

September

5 **Primary Care Update** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

24 **The Office Treatment of Hypertension** — Location: St. Louis Sheraton Westport Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

24-26 **Two-Dimensional Doppler Echocardiography** — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

29-30 **Missouri Perinatal Association Clinical Conference** — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

October

1 **Psychiatry** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

4-5 **Infectious Diseases Conference** — Location: Tan-Tar-A Resort, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia Health Sciences Center, CME Office, MA215, Columbia, MO 65212. 314/882-4105.

9-11 **29th Annual Physicians Weekend** — Location: MA217 Auditorium, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia Health Sciences Center, CME Office, MA215, Columbia, MO 65212. 314/882-4105.

30-31 **Chronic Obstructive Pulmonary Disease** — Location: Columbia Hilton. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

November

14-16 **13th Annual Symposium: Anesthesia and the Geriatric Patient** — Location: St. Louis Marriott Pavilion Hotel. Contact: Geriatric Symposium, Department of Anesthesiology, Box 8054, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, MO 63110.

December

3 **Angina Pectoris** — Location: Pending. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Magnetic Resonance Imaging** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4480.

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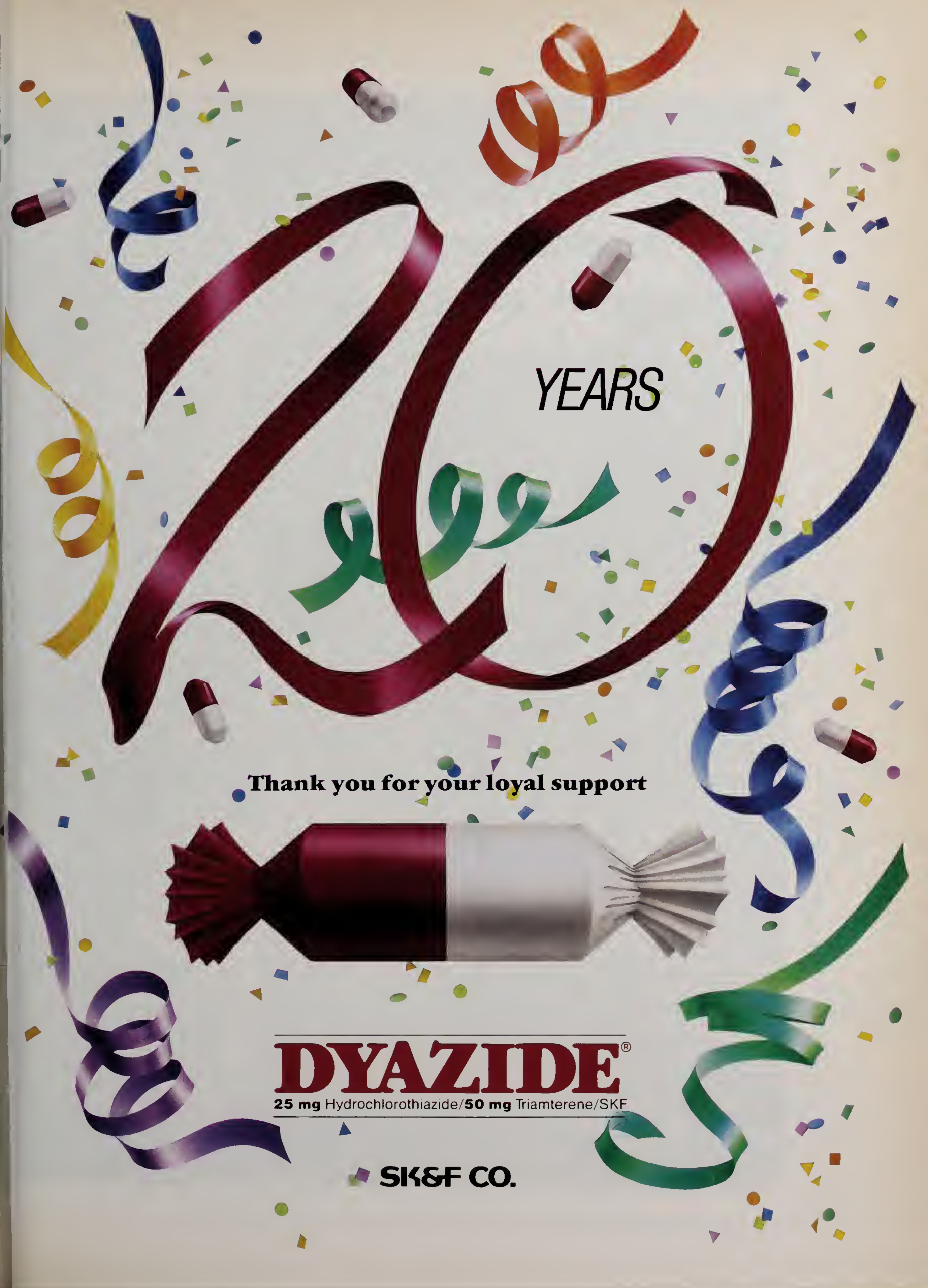

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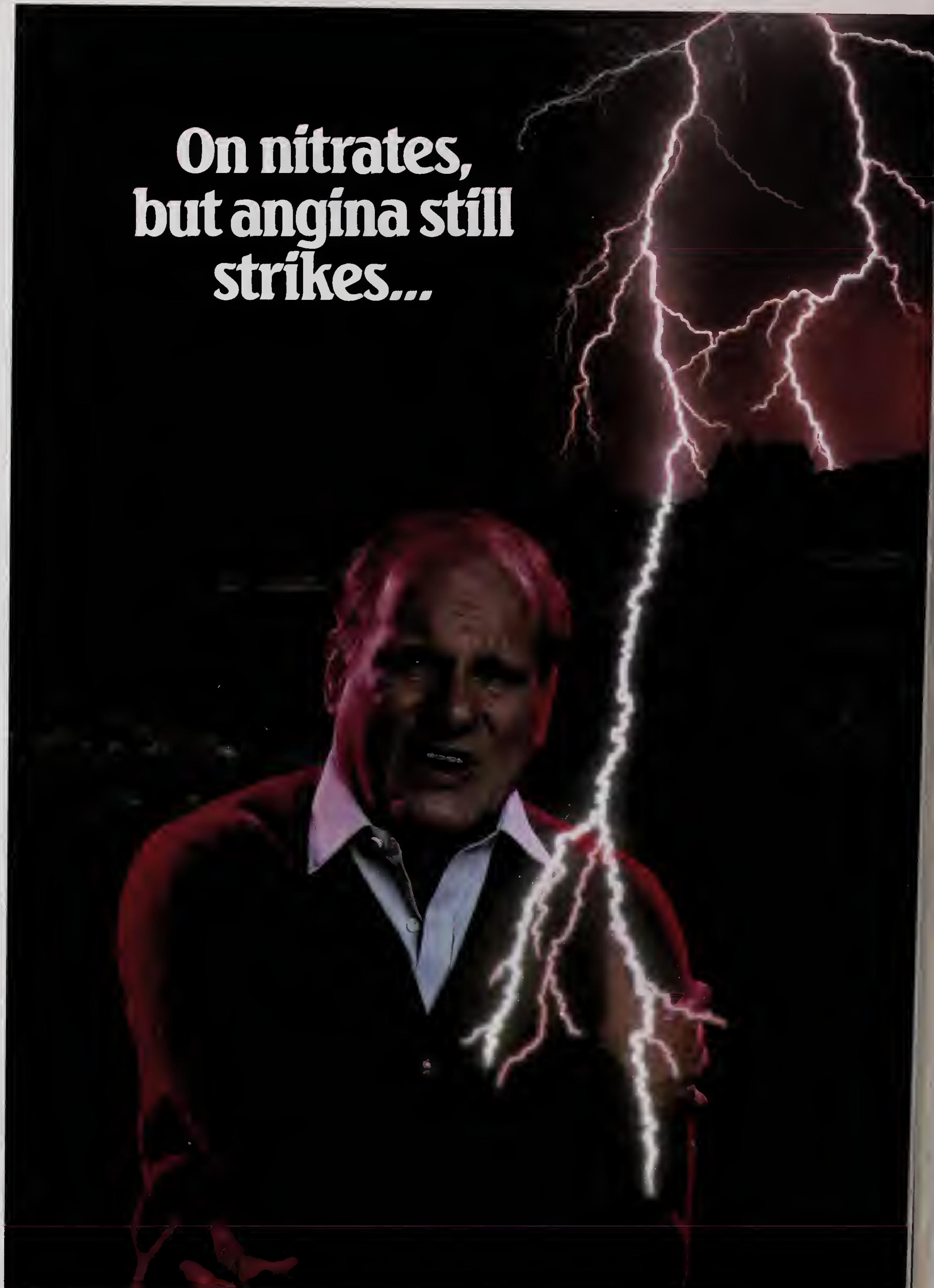
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Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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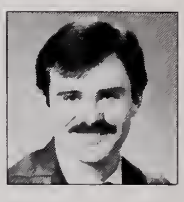

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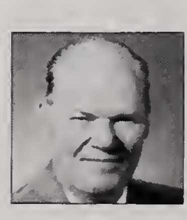

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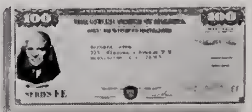

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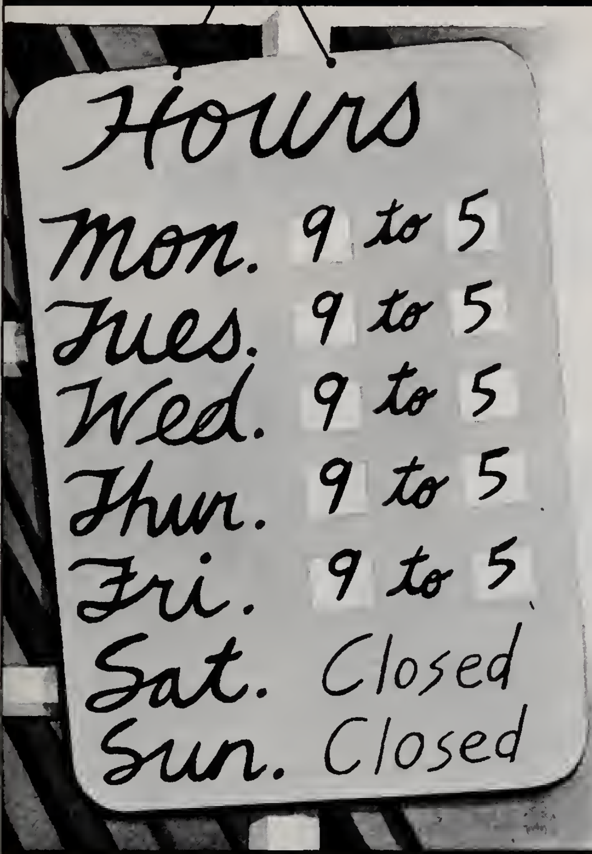

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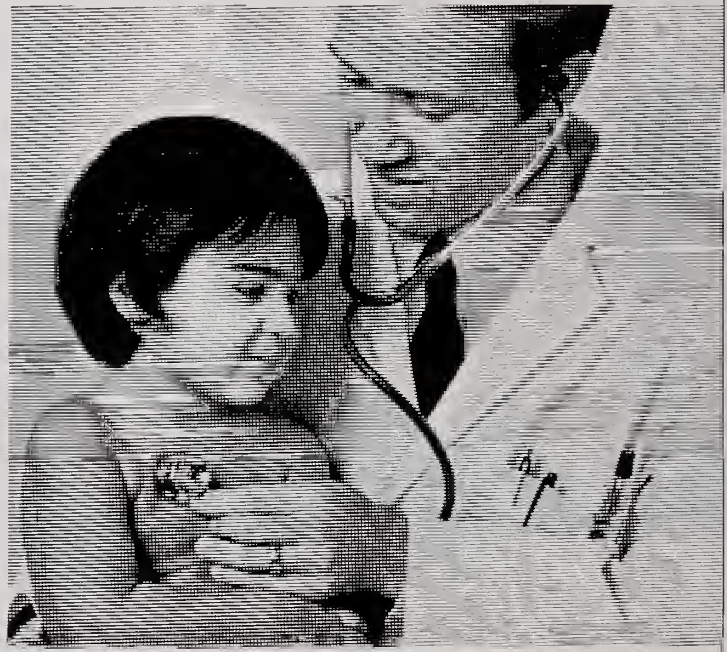

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Physician's Recognition Awards

Thirty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during February 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

William C. Allen, *Columbia*
William D. Bradshaw, *Columbia*
Kristina K. Erickson, *Columbia*
Dean A. Nierling, *Columbia*

Cole

Lawrence E. Giffen, *Jefferson City*

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William L. Fair, *Chillicothe*

Greene

Lanny R. Brent, *Springfield*
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Jackson

Glenn A. Barr, *Kansas City*
Herbert A. Dempsey, *Lee's Summit*
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Robert M. Hazen, *Kansas City*
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Lafayette-Ray

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Mineral Area

Stanton L. Hardy, *Desloge*

Northwest

James D. Humphrey, *Mound City*

Ozarks

Joseph L. Bizek, *Aurora*
Frederick B. Brown, *Aurora*

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James F. Fairchild, *Perryville*

South Central

Anchala N. Reddy, *West Plains*

St. Charles

J. Michael Conoyer, *St. Peters*

St. Louis

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David A. Andersen, *St. Louis*
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In Memoriam

- **Robert J. Farrell, M.D.,** 9060 Saranac Dr., St. Louis 63117; graduate St. Louis University, 1933; member of St. Louis Metropolitan Medical Society; age 78; died March 14, 1986.

- **George V. Feist, M.D.,** 1103 W. 86th Terr., Kansas City 64114; graduate of Washington University, 1923; member of the Jackson County Medical Society; age 87; died March 18, 1986.

- **Harold R. Henstorf, M.D.,** 1815 Ridgemont, Columbia 65203; graduate of University of Iowa, 1943; member of the Boone County Medical Society; age 67; died February 25, 1986.

- **Robert M. Myers, M.D.,** 2310 Stone Blvd., Raymore 64083; graduate of the University of Kansas, 1936; member of the Jackson County Medical Society; age 82; died February 25, 1986.

- **William B. See, M.D.,** 706 Seymour Rd., Columbia 65203; graduate of the Northwestern University, 1941; member of the Boone County Medical Society; age 71; died March 12, 1986.

- **Robert F. Solley, M.D.,** 236 West Channel Rd., Santa Monica, CA 90402; graduate of Columbia University, 1926; member of the St. Louis Metropolitan Medical Society; age 87; died February 17, 1986.

Information for Contributors

Articles are accepted for publication on condition that they are contributed solely to this journal. Material appearing in Missouri Medicine is protected by copyright.

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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This Date in Medical History

MAY

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1816 René Laënnec, a French physician, invents the stethoscope. Called to examine an obese young woman with symptoms of heart disease, he found direct auscultation not to be permissible because of the patient's age and sex. An accomplished flutist, he rolled up a cylinder of paper and discovered that he could hear the heart sounds better than usual. His *De l'Auscultation Médiate* (1819) remains "one of the eight or ten greatest contributions to the science of medicine." (Osler)

3

1765 Drs. John Morgan and William Shippen, Jr., establish a Medical Department in the College of Philadelphia as the first medical school in the American colonies; this would later become the University of Pennsylvania Medical School. These two doctors would have a fallout during the American Revolution and would spend the rest of their days feuding and quarreling.

4

1876 Dr. Adam Hammer of St. Louis correctly diagnoses coronary occlusion during life for the first time. The case is published February 2, 1878.

5

1846 The American Medical Association is proposed in convention. It will be established one year later.

8

1683 Peter Chamberlain dies. He was the inventor of the obstetrical forceps which was kept a family secret for almost a century. He advocated incorporating midwives and published many political and theological schemes. The Chamberlain family also marketed the Anodyne Necklace; this was used for teething and was composed from the bones of Saint Hugh. This saint had had a way with children, and when he would dip his fingers in holy water and rub their gums, their toothache would be cured. The efficacy of the necklace depended on this curative power having been transferred to his bones.

11

1684 Daniel Whistler, English physician who had given one of the earliest descriptions of rickets and had been president of the College of Physicians, died. Since he died in debt, his friends whisked his body away so that it would not be sold to be anatomized, the price being applied against his debts.

15

1921 Frederick Banting and Charles Best ligate the pancreatic ducts of their first experimental dog, leading to the extraction of "isletin," later called insulin.

18

1861 Friedrich August von Ammon, German ophthalmologist, died. Ammon's scleral prominence is located in the posterior aspect of the globe of the eye of the fetus at the third month. He introduced both blepharoplasty and dacrocystotomy.

20

1747 James Lind begins his classic experiments on the treatment of scurvy aboard H.M.S. Salisbury.

21

1862 Surgeon General William Alexander Hammond (1828-1900) announces his intention to establish an Army Medical Museum; in 1949 this becomes the Armed Forces Institute of Pathology (AFIP).

1876 Italian surgeon Edoardo Porro performs the first modern Caesarean section on 25-year-old Julie Covallini. Porro's operation is a Caesarean section with a hysterectomy.

22

1858 Arthur Conan Doyle, physician creator of Sherlock Holmes, Brigadier Gerard, Sir Nigel Loring and Professor George Edward Challenger, is born.

23

1926 John Hilton Knowles, iconoclastic director (its youngest) of the Massachusetts General Hospital, is born. He criticized unnecessary surgery and high fees and advocated preventive medicine and national health insurance. "The AMA operating from a platform of negative vigilance presents no solutions but busily fights each change and then loudly supports it against the next proposal."

24

1898 Helen Taussig, American pediatric cardiologist who designed the first operation to save "blue babies." She was the first woman to hold a full professorship at Johns Hopkins.

30

1909 Désiré Magloire Bourneville, French physician who described a familial disorder including mental retardation with deterioration, epilepsy and sebaceous adenomas of the skin, died. The disorder is known as epiloia or Bourneville's disease.

31

1889 The Birth of Modern Endocrinology: Dr. Charles-Edouard Brown-Sequard reports increased vigor after injecting himself with animal testicular material.

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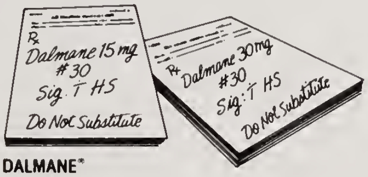
References: 1. Kales J, *et al: Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A, *et al. Clin Pharmacol Ther 18*:356-363, Sep 1975 **3.** Kales A, *et al. Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc 27*:541-546, Dec 1979 **6.** Dement WC, *et al: Behav Med*, pp. 25-31, Oct 1978. **7.** Kales A, Kales JD. *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al:* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984 **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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Vol. 83, No. 6 *Journal of the Missouri State Medical Association* June 1986

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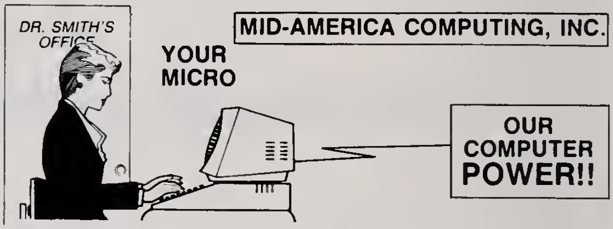
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MSMA Progress Notes

Optometry bill goes to Governor's desk

In the final weeks of the General Assembly, House Bill 1333, which would permit optometrists to use therapeutic drugs, passed both houses of the legislature and was sent to the Governor to be signed into law. The bill picked up amendments which would require optometrists to have at least 100 hours of clinical training in a program supervised by an ophthalmologist and meet the same standards of care as expected of a physician.

Capitol observers noted that Missouri physicians were "out-hustled prior to the Session, out-spent in political contributions, out-manned by optometrists in the halls, out-lobbied by the optometrists and just flat beat."

The MSMA's biggest success of the Session was the passage of the medical malpractice bill which has already been signed into law. The Association was also busy this Session working for the passage of several bills and the defeat of approximately 20 bills.

Some of the bills MSMA opposed which were defeated in tough battles included measures to license lay midwives (killed twice), license respiratory therapists, license physician assistants, license dietitians, license social workers, weaken the peer review law, repeal the seat belt law, allow direct reimbursement to nurses and permit physical therapists to treat patients without the prescription of a physician. Many other bills were amended to delete objectionable portions.

Some bills supported by the MSMA which did not pass included the family practice residency bill, a bill to mandate insurance benefits for mental illness and several bills dealing with overall tort reform. ■

State Supreme Court

Minors now have longer to file suits

The Missouri Supreme Court recently declared the medical malpractice statute of limitations unconstitutional as it applies to minors. The statute provided a two-year statute of limitations after the occurence for suits against health care providers, except that a minor under the full age of 10 years would have until his twelfth birthday to file suit.

Under Missouri law, an individual 17 years or younger is a minor for purposes of filing a suit. In *Strahler v. St. Luke's Hospital et al*, the Court ruled that this provision violated the mandate of Art. 1, Sec. 14 of the Missouri Constitution, which states that Missouri courts ". . . shall be open to every person, and certain remedy afforded for every injury to person. . . ."

The plaintiff in the *Strahler* case was a 15-year-old minor when the alleged malpractice occurred. She waited until she was 19-years-old to file suit. The defendants asserted that the plaintiff should have sued within two years of the occurrence. The trial court dismissed the suit on these grounds.

On appeal to the Missouri Supreme Court, the majority opinion of three judges, a fourth concurring, reasoned that a minor's legal disability and inherent age disabilities and limitations would prevent a knowing appreciation of a potential malpractice claim, and that the minor's parents could not be relied upon to initiate such a suit. As a result of this decision, it appears that a minor with a potential malpractice claim has until two years after his or her eighteenth birthday to file a malpractice suit, no matter when the alleged malpractice occurred during minority.

Three judges dissented in separate opinions, generally challenging the majority opinion's conclusion that parents or guardians would not protect a minor's right to bring suit.

A motion for a rehearing was denied and this decision will stand. ■

New DEA Requirement

In October 1985 the Drug Enforcement Administration published a final rule amending the recordkeeping requirements for physicians who prescribe, administer and dispense controlled substances. This rule implements the changes enacted by Congress in 1984 in the Diversion Control Amendments. The final rule requires physicians to maintain records for all controlled substances which are dispensed. The rule continues to exempt physicians from recordkeeping requirements for the prescribing and occasional administration of controlled substances. However, records are required to be kept for the administration of controlled substances by individual practitioners who regularly administer or dispense controlled substances and charge their patients for these substances.

The rule reflects Congressional intent to strengthen the authority of the DEA in preventing the diversion of controlled substances and to tighten the "closed" system of distribution for controlled substances to extend to the practitioner level.

Based on reports it has

Continued on page 310

MMPAC Sustaining Members

The Missouri Medical Political Action Committee (MMPAC) is a voluntary committee of Missouri physicians and spouses who contribute funds to aid in the election of Missouri candidates to the state legislature and U.S. Congress. The committee financially supports those candidates whose philosophy is similar to that of the medical profession. Listed below are MSMA and Auxiliary members who have contributed $100 to become sustaining members of MMPAC. If you wish to join the ranks of these concerned physicians, write MMPAC, P.O. Box 1402, Jefferson City, MO 65102.

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■ **DEA,** *continued*

received from drug company representatives, the Pharmaceutical Manufacturers Association has advised AMA that many physicians apparently are unaware of the requirements of the final rule. The AMA and MSMA encourage you to review this DEA requirement. ■

Susan Gold becomes new managing editor

Effective May 12, Susan Flanigan Gold assumed her new responsibilities as managing editor of *Missouri Medicine*. In addition to publishing the monthly journal of the MSMA, Susan's duties will also include administering the Missouri State Medical Foundation and acting as liaison to the MSMA Auxiliary.

A graduate of the University of Missouri-Columbia School of Journalism, Susan has been employed for the past two years as Director of College Promotions at William Woods College in Fulton.

Susan replaces Laurel Ellison who resigned recently to accept a new position as public information officer for the Missouri Department of Health. ■

MSMA presents awards to top medical students

For more than 20 years, MSMA has awarded $100 to the top graduates of Missouri's medical schools. This year the Association expanded the honor so that three students were honored by each school. Each recipient was selected because of their academic excellence throughout their medical education.

On May 16, St. Louis University presented the MSMA Honors Graduate Awards to:

David A.Bradshaw
Fullerton, CA
Peter G. Singer
Greenbrae, CA
Thomas M. Wallace
Westchester, OH

The University of Missouri-Columbia presented their MSMA awards on May 17 to:

Gordon Groh
Neosho, MO
Craig G. Mohler
Jefferson City, MO
Radomysl M. Twardowski
Columbia, MO

At their graduation ceremonies on May 30, the University of Missouri-Kansas City recognized these MSMA Honors Graduates:

Douglas G. Aach
Creve Coeur, MO
Kenneth D. Fine
St. Louis, MO
Holly L. Thacker
Kansas City, MO

Honored at the May 16 graduation ceremonies at Washington University were:

Nancy L. Bartlett
Kansas City, MO
Daniel H. Hechtman
Brookline, MA
Orval C. West
Des Moines, IA

Congratulations to all! ■

Scam of the Month

The Sickle Cell Anemia Scam

Investigations in the St. Louis area have uncovered an innovative scam involving the Schedule III Codeine containing analgesics, especially Tylenol #3 and #4.

Children who have been diagnosed as having sickle cell anemia were being used by their parents to obtain large quantities of Tylenol #3 and #4. Medicaid was paying for these prescriptions and reported this situation to the Bureau of Narcotics and Dangerous Drugs.

Further investigation revealed the nature of the scam which involved a family with three children — one boy who was confirmed to have sickle cell anemia and two girls with no apparent medical problems. Several physicians were prescribing controlled drugs for the boy but one physician was also prescribing numerous Tylenol #3 and #4 prescriptions to the two girls as well.

Bureau investigators contacted the boy's primary physician who reported that the pain associated with sickle cell anemia ran in cycles and that the boy should be able to go for several days without the use of any controlled drugs.

Discussion with the physician prescribing for the two girls indicated that the boy's father led the physician to believe that both girls also had the disease and that was the reason why the physician was prescribing so many controlled drugs for them.

It was later learned that the father was apparently involved in selling the Tylenol #3 and #4 and that his wife was an addict. Since the time that this situation was uncovered, even though the entire family is "locked in" to one doctor and one pharmacy under the Medicaid program, none of the family members have been seen or heard from. This is another unfortunate case of parents unscrupulously using their children to divert controlled drugs.

Physicians should remember that, generally, patients obtaining large quantities of controlled drugs need more monitoring than patients who are not receiving large quantities. The physician should be certain in his or her own mind that the patient is using the controlled drugs in the proper and reasonable manner intended and investigate unusual requests for additional quantities or increased drug strength. ■

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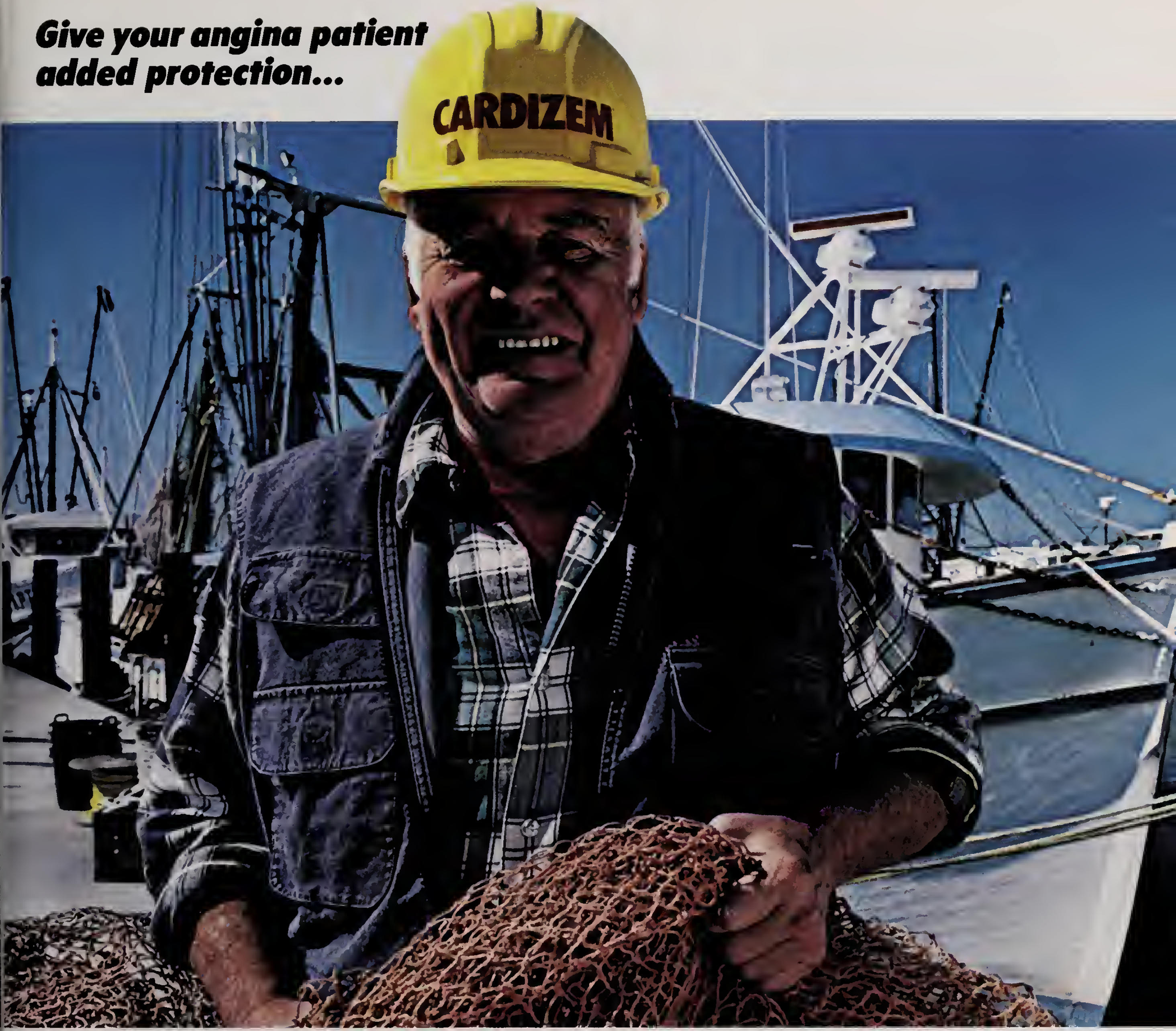

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There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

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WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
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3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System.	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity
Other.	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84

See complete Professional Use Information before prescribing.

D642T5

References: 1. *Physicians' Desk Reference®*, ed 39. Oradell, NJ, Medical Economics Company Inc, 1985. 2. Cohn PF, Braunwald E. Chronic ischemic heart disease, in Braunwald E (ed): *Heart Disease: A Textbook of Cardiovascular Medicine*, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. 3. Schroeder JS: Calcium and beta blockers in ischemic heart disease. When to use which. *Mod Med* 1982; 50(Sept):94-116. 4. Subramanian VB: Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina. *Cardiovasc Rev Rep* 1984; 5:91-104. 5. Schroeder JS, Feldman RL, Giles TD, et al. Multiclinic controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 1982; 72:227-231. 6. Weiner DA, McCabe CH, Cutler SS, et al. The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7:648-653. 7. Shapiro W: Calcium channel blockers. Actions on the heart and uses in ischemic heart disease. *Consultant* 1984; 24(Dec):150-159

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Richard Gimpelson MD

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Republican
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Letters to the Editor

There's no need for peer review for office practice

Dear Dr. Burkey,

I am writing in reply to the article by Samuel Guze, M.D., which appeared in the April issue of MISSOURI MEDICINE. Specifically, I am addressing Dr. Guze's contention that there is a need for a peer review quality assurance program for office practice.

Physicians are already one of the most closely watched and regulated professions in the country. Our training from medical school through residency instills in all of us a degree of compulsion and a fear of making mistakes, which we all carry with us throughout our professional career.

State licensing boards, fear of malpractice, and desire to please and retain our patients, all contribute to quality assurance. Third party payers are becoming increasingly intrusive in our practice styles and in denying what they consider unnecessary procedures. Yet another layer of bureaucracy can only worsen matters.

Furthermore, the statement by Dr. Guze that patients are incapable of making decisions about the quality of their physician's care is erroneous. As a primary care internist, I can tell you that patients are quite aware of what they expect in regard to quality care. The majority of my new patients have seen other physicians for the same complaint. I contend the system works and that further peer review organizations are unnecessary.

Sincerely,
Dewey P. Ballard, M.D.
St. Joseph

Thanks for the excellent workshop

Dear Dr. Burkey:

On March 13, 1986, I attended a one-day workshop offered by the Missouri State Medical Association. The workshop, "Marketing Techniques for a Successful Practice," presented by Conomikes Associates, was excellent.

I thoroughly enjoyed the speaker, his knowledge and the materials distributed. The workshop was certainly a help to me as well as others I spoke with during and after the meeting. The Association should be commended for offering such a quality program.

Sincerely,
Peggy Butcher, R.N.
Professional Relations
Representative
Kansas City

A few things for PRO reviewers to remember

Dear Dr. Burkey,

As rural practitioners of medicine in small county hospitals (Perry County Memorial Hospital and Ste. Genevieve County Memorial Hospital), we would like to express our views about PRO on matters concerning the limitations of a small town hospital practice, and what the PRO reviewers must be aware of — such as the the following:

1. Patient care review should be done by up-to-date, nondiscriminatory, consistent and competent peers and paramedical personnel with similar or comparable qualifications, experience, training and background.
2. We should have the privilege to have cases (charts) reviewed outside our area or region. In some instances, there has been no specific response from the Missouri Patient Care Review Foundation Region V regarding suggestions or requests for an "external" patient care review.
3. PRO reviewers must realize that in small community hospitals, physicians often find themselves at the end of the line medically. Some cases are denied because there are no other diagnostic therapeutic alternatives to turn to due to economic, social and medical circumstances. We do not have the sophisticated armamentarium found in large, well-equipped state-of-the-art teaching hospitals. We are operating only with what we can afford to have — an inherent, painful reality in small town hospitals. Reviewers must take the aforesaid assertions into consideration during the review process, and must not compare us with medium and large-sized hospital practitioners. Reviewers must be able to discern the nuances in the limited manner we practice medicine.

Very truly yours,
Mel M. Allego, M.D.
Perryville

He's looking forward to his 75-year pin

Dear Dr. Burkey,

I am sorry that I was unable to be present at the MSMA annual presidential inauguration to receive my 50-year pin. Having a prior commitment to enjoy a three week cruise through the Panama Canal distracted my attention.

The pin is fully appreciated and I am looking forward to the 75-year pin.

Sincerely,
Don C. Weir, M.D.
Webster Groves

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

If physicians who do not wish to embrace the prepaid health care concept want to fight back, it must be done by practicing quality medicine while adopting an aggressive, positive approach to work.

Prepaid health care wave of the future?

After discussing a variety of subjects on the editor's page for several years, the writer is bound to expound on the same subject more than once. Now that our attention has shifted away from unified membership and dues increases, one topic eligible for a rerun is the current status of prepaid health care plans.

Most physicians have negative thoughts about health maintenance organizations, and for good reason. They exist to make money for investors, reduce income for physicians and, most irritatingly, tell doctors how to treat their patients. Some physicians have responded by putting together preferred provider organizations (PPOs) and independent practice association (IPAs).

Statistics indicate that HMO membership in Missouri has risen during the past two years from 120,000 to 440,000, while enrollment in PPOs has increased from 30,000 to 220,000. Ten percent of Missourians are now part of some such group; the educated guessers say that half of the population will be in some sort of health care plan in another decade.

The workings of an HMO are perhaps more thoroughly understood now than in years past. They are consumer-oriented with the realization that businesses represent great groups of consumers. They appreciate the fact that people who need medical help want immediate attention — witness the HMO expansion into "urgicenters." They undoubtedly add to the overall health care cost problem by skimming off the healthier middle class population, while having minimal involvement with Medicaid or charity patients, or with older patients.

These organizations are not always financially successful — they flourish best in a setting of abundant physician supply, excessive numbers of hospital beds, high medical insurance rates and poor relationships between business and medicine. In this situation, an HMO with experienced management which can control hospitals and doctors and can implement incentives to limit physician and hospital usage, will return good profits for its investors. These organizations are heavy into marketing; some have admitted to influencing the media for maximum exposure and for making sure that stories not favorable to HMOs are "treated blandly."

The HMO concept is now being exported. Great Britain's private health sector — an estimated 8% of the population — is the current target of some American HMO investor groups. This led to a recent overview of the HMO situation in the United States in a report in the *British Medical Journal.*[1] The story notes that a great number of American physicians are now acting like businessmen ("exit the white coat, enter the pinstriped suit"). Those American cousins who are merely standing by grumbling about the gradual erosion of their independence are said to be "reluctant to read the writing on the wall."

Continued on page 319

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

The dues increase will allow our organization to do things not financially possible before now.

With new goals set, MSMA moves ahead

Six hundred twenty-seven MSMA members participated in the proceedings of the Association's 128th Annual Convention, April 3-6, in St. Louis. While attending the convention, we also were privileged to share in the sesquicentennial celebration of organized medicine in St. Louis.

The MSMA House of Delegates discussed and debated more than 25 resolutions placed before it. Four of the more important resolutions debated were: a dues increase; the development of a statewide MSMA sponsored IPA-HMO; yearly officer visitation to each component medical society; and unification with the AMA. Two of these resolutions passed unanimously; one received a majority vote but failed to achieve the required two-thirds approval; and the fourth passed and is currently being developed.

Unified membership, an effort to achieve a single voice for American medicine through the federation concept, received a majority; however, failed because of the two-thirds vote required for a constitutional change. The tangible and intangible benefits of the AMA apparently are not yet attractive enough for most Missouri physicians.

The two resolutions receiving unanimity were the dues increase and officer visitation. The three top MSMA officers (president, president-elect and Council chairman), are now required, between the three of them, to visit each component medical society during their year together in office. Dr. German visited every component medical society during his year as president; however, he felt this was too much for one officer and recommended this division among the three top officers. This is an excellent plan and it will now be taken to the AMA meeting for possible implementation on the national level.

The passage of the dues increase, no doubt boosted by the success of this year's tort reform effort in the Missouri legislature, will allow our organization to do things not financially possible before now. We do face our first budgeted deficit in 1986, $122,000. An unpriortized list of programs to be funded with the dues increase includes: additional operating reserves; renovation of our headquarters building, as well as renovation of the adjacent building purchased in 1984 and still standing empty; development of a public awareness program to tie in with the AMA public image program; follow-up on the professional liability program with public education; development of hospital medical staff and resident physician sections; increase lobbying efforts in Jefferson City and in Washington to reinforce advocacy for our patients; and improved communication with each member of MSMA (each full member mailing cost $3000-$5000). Existing programs need more financing, too. You can see that your dollars will be utilized prudently.

Continued on next page

■ President's Page,

continued from page 317

The final resolution I would mention is for MSMA to develop and implement a statewide IPA-HMO. Dr. William F. Dowda of the Medical Association of Georgia (MAG) discussed the MAG-sponsored statewide IPA-HMO. The possibility of an MSMA-sponsored IPA-HMO is being evaluated by a select committee and, if found feasible, implementation will follow.

One other highlight: In 1932 when the first MSMA president from Mexico, Missouri, was installed, Governor Caufield addressed the MSMA House of Delegates in Jefferson City. In 1986, when the next Mexico physician became MSMA president, Governor Ashcroft addressed the convention and was well-received in St. Louis.

If the spirit, enthusiasm and policies approved by the House of Delegates are carried out the officers, Council, committee and commission members, and the general membership, MSMA can expect to enjoy another banner year. ■

Coming in August . . .

Directory Issue

■ Editor's Desk

continued from page 315

The health care plans are having least success in areas where physicians and hospitals have been controlled expenses, maintained rapport with business and provided readily available service. If physicians who do not wish to embrace the prepaid health care concept wish to fight back, it must be done by practicing quality medicine while adopting an aggressive, positive approach to work.

Marketing, cost containment and availability to the public must be of high priority whether pursued individually or through physician controlled health provider organizations. We take pride in the historic Yankee trader/businessman of a couple of hundred years ago; we apparently need to revive the same entrepreneur spirit to be successful medical businessmen and women today. ■

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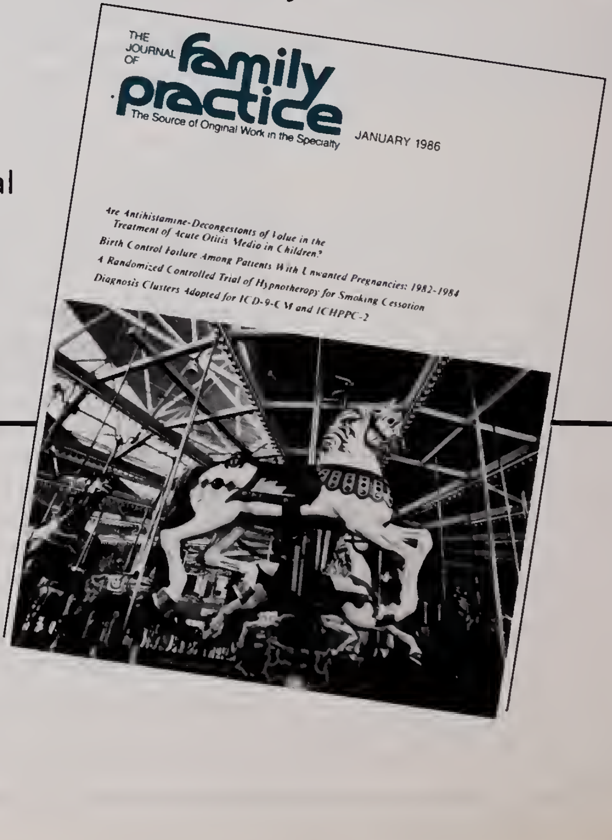

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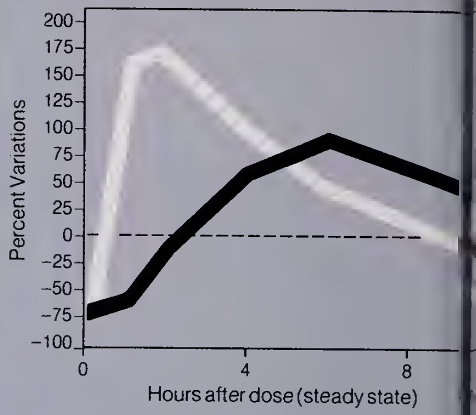

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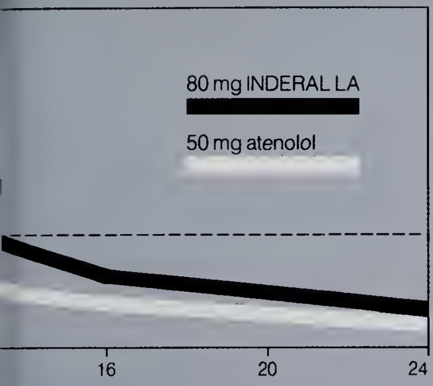

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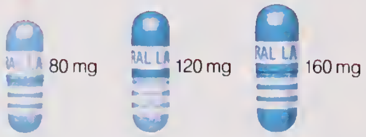

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WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma

Thiazides may add to or potentiate the action of other antihypertensive drugs Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

CLINICAL LABORATORY TESTS Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs, such as reserpine should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY Pregnancy Category *C* Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: Propranolol is excreted in human milk Caution should be exercised when propranolol is administered to a nursing mother

PEDIATRIC USE Safety and effectiveness in children have not been established.

Hydrochlorothiazide: GENERAL Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs irrespective of cause are Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS: Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use

PREGNANCY: Pregnancy Category *C*. Thiazides cross the placental barrier and appear in cord blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

NURSING MOTHERS. Thiazides appear in human milk If use of the drug is deemed essential, the patient should stop nursing

PEDIATRIC USE. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands, thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss; emotional lability; slightly clouded sensorium; and decreased performance on neuropsychometrics

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation; mesenteric arterial thrombosis; ischemic colitis.

Allergic Pharyngitis and agranulocytosis; erythematous rash; fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory Bronchospasm.

Hematologic: Agranulocytosis; nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous Alopecia, LE-like reactions, psoriasiform rashes, dry eyes; male impotence; and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

Hydrochlorothiazide:

Gastrointestinal. Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis; sialadenitis

Central Nervous System. Dizziness, vertigo; paresthesias; headache, xanthopsia.

Hematologic: Leukopenia, agranulocytosis; thrombocytopenia; aplastic anemia.

Cardiovascular: Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics).

Hypersensitivity Purpura, photosensitivity, rash; urticaria; necrotizing angiitis (vasculitis, cutaneous vasculitis); fever; respiratory distress, including pneumonitis, anaphylactic reactions.

Other. Hyperglycemia; glycosuria; hyperuricemia, muscle spasm; weakness; restlessness; transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

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Auxiliary Message

by Gayle Vilmer
President

> *We were encouraged to establish personal relationships with our legislators, to give constant attention to the bills introduced, and to make our opinions known.*

Involvement is key to legislative successes

According to Benjamin Franklin, "The used key is always bright." If this is so, then the Missouri State Medical Association Auxiliary key must be shining like gold.

In early May, a traveling team of MSMA Auxiliary officers presented workshops in Kansas City, Springfield, Cape Girardeau and St. Louis. Topics covered at the workshops and officers making the presentations were the following:

Membership: Eileen Dyer (Mrs. Gary); Legislation: Pattye Barbee (Mrs. Chas.); Health Projects: Jan Glover (Mrs. David); Fund Raising: Carol Sparkman (Mrs. Tom); Missouri State Medical Foundation: Carol Robinson (Mrs. Ronald); and Tips on Conducting a Meeting: Sandra Mitchell (Mrs. John).

Because legislation has become such an important element in the medical community, a legislator was invited to speak at each workshop. In Kansas City, Rep. Jan Martinette was the speaker; in Springfield, Rep. Doug Harpool spoke to the participants; in Cape Girardeau, Auxiliary members made a stimulating presentation; and in St. Louis, Rep. Marion Cairns addressed the group. Again, we were encouraged to establish personal relationships with our legislators, to give constant attention to the bills introduced, and to make our opinions known. In other words, we were asked to become participants — not observers — in the legislative process.

On June 4 in Jefferson City, Missouri physicians and auxilians had an opportunity to participate in learning more about the legislative process. Susan B. Bryant, president of Research/Strategy/Management, Inc., a Washington-based political consulting firm, will present a seminar on how to become involved in a political campaign. Since this is an election year, wouldn't it be great if each political candidate in Missouri had a member of the medical community on their campaign committee? This is a goal the Auxiliary is trying to reach.

The "lazy days of summer" are here but the Auxiliary will be busy formulating plans for the coming year. With a membership goal of 2,000 — we are now at 1,288 — membership will be the primary focus. We hope to reach every eligible physician's spouse in Missouri with our message of involvement and participation in promoting all the positive aspects of medicine. Please lend your encouragement and support to your spouse's participation in the Auxiliary. We all will benefit enormously!

As the "used key is always bright," may your Auxiliary present only keys shining like gold throughout this coming year. Have a safe, happy and productive summer. ■

The MSMA Retirement Plan System

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Rocky Mountain Spotted Fever in Missouri

Stephen A. Dolan, M.D. and E. Dale Everett, M.D.
Columbia, Missouri
and F. T. Satalawicz, D.V.M., M.S.P.H.
Jefferson City, Missouri

The experience of two Missouri hospitals with Rocky Mountain Spotted Fever (RMSF) is reviewed. Survival of the disease is contingent on prompt recognition and treatment. As the authors note, certain "characteristic" symptoms are not always apparent, and physicians must remain aware of the possibility of RMSF during the critical months of April through October.

Between 1974 and 1984, the state of Missouri reported an average of about 20 cases of Rocky Mountain Spotted Fever (RMSF) per year. While the number of cases is not large when compared with our neighboring states of Oklahoma, Arkansas, and Tennessee, it is an important diagnosis to make, in that effective treatment is available and failure to entertain the diagnosis can lead to substantial morbidity and mortality. This study reviews the clinical experience with RMSF at the University of Missouri Health Sciences Center and the Harry S Truman Veterans Administration Hospital, Columbia, over the past 10 years.

Methods

The charts of patients with a discharge diagnosis of RMSF between 1974 and 1984 were reviewed. The case criteria outlined by the Centers for Disease Control (CDC) were used for diagnosis[1] (Table 1). The geographic distribution of cases in the state of Missouri was obtained from the Missouri Department of Health.

Results

During the review period, 20 patients were discharged with the diagnosis of RMSF. While all had illnesses compatible with RMSF, only 10 met the CDC criteria of either a confirmed or probable case. Seven of the patients were male and three were female; ranging from 2 to 60 years of age. All of the cases occurred between the months of May and September. The median time from onset of symptoms to diagnosis was 8.5 days, with a range of 2 to 15 days. The initial diagnosis was an illness other than RMSF in five cases. These diagnoses include measles, sepsis, viral syndrome, pneumonia, and influenza. A history of a re-

Table 1

Diagnostic Criteria for Rocky Mountain Spotted Fever[1]

Confirmed Cases
1. Single serum Complement Fixation (CF) titer ≥ 1/16
2. Single serum Indirect Fluorescent Antibody (IFA) titer ≥ 1/64
3. Paired sera demonstrating fourfold rise in titer by CF, IFA, microagglutination, latex agglutination, or indirect hemagglutination
4. Isolation of rickettsia or positive Direct Fluorescent Antibody (DFA) of skin biopsy or other tissue specimen.

Probable Cases
1. Fourfold rise in the Weil-Felix assay (OX-2 or OX-19)
2. Single titer ≥ 1/128 by latex agglutination microagglutination or indirect hemagglutination.

cent tick bite was obtained from eight of the ten patients. Tick exposure was not described by the remaining two.

A history of fever and myalgias was present in all cases upon admission, and eight patients complained of headache. Mental status changes, occurring in 70% of patients, were nonspecific, and included irritability, confusion, hallucinations, and delirium. Gastrointestinal complaints, mainly nausea and vomiting, were present in the majority, but in none were they the chief complaint.

Fever greater than 38°C orally (range 38^2-39^6°C) was present in all. A rash was present in eight of 10 patients upon admission. The two patients who presented without rash subsequently developed skin lesions on day 3 and day 7 of hospitalization (day 5 and day 15 of their illness), respectively. In four, the rash was petechial in character, in four it was macular, and a mixture of both in the remaining two. Mild abdominal pain was described in four patients, and gastrointestinal bleeding was present in three cases.

Laboratory findings were non-diagnostic. The white blood count was usually $< 10{,}000$ cells/mm^3 but with a significant left shift. Lymphopenia, not commented upon in previous studies, was present in nine patients, and a modest degree of anemia was present in seven patients. Thrombocytopenia was noted in 90% of the patients. Serum chemistries demonstrated hyponatremia in all cases. The serum creatinine was elevated in four, one of whom developed renal failure with a serum creatinine of 9.8 mg/dl.

Urinalysis frequently revealed low grade proteinuria, but neither pyuria nor hematuria was seen. Electrocardiograms were done in seven patients and were either normal or revealed only non-specific S-T segment changes. A chest radiograph was obtained on seven patients. Cardiomegaly was demonstrated in two cases without pulmonary infiltrates. One pleural effusion was seen in conjunction with a parenchymal infiltrate and/or pulmonary edema. Two patients had infiltrates at some point in their illness. Skin biopsies were performed in five patients and revealed no evidence of rickettsial organisms by the direct fluorescent antibody technique. Lumbar punctures were performed on seven patients. Two had pleocytosis of 26 white blood cells/mm^3 and 38 white blood cells/mm^3. Protein and glucose measures were normal, except in one person with coexistent diabetic ketoacidosis and in another patient who had had previous seizure activity.

Course of the Illness

Nine of 10 patients survived their illness. All 10 patients received appropriate antibiotic therapy as soon as the clinical diagnosis was made. Three received between 10 and 14 days of tetracycline, and six received between seven and 14 days of chloramphenicol. There was prompt response to antibiotic therapy. Temperature returned to normal in all survivors between 72 and 96 hours after initiating treatment, and often sooner. The lone fatality became ill nine days before he was admitted to our hospital. Transfer to our hosital was prompted by the development of renal failure and seizure activity. Upon arrival, he was treated with parenteral chloramphenicol before dying of cardiovascular collapse 36 hours after admission.

Epidemiology

Figure 1 demonstrates the distribution of cases of RMSF reported to the State Health Department between 1974 and 1984. The cases are reported by county of residence. The distribution of cases in southern Missouri is readily seen.

Discussion

Rocky Mountain Spotted Fever is the most frequently reported rickettsial disease in the United States. The organism *Rickettsiae rickettsii* is a small intracellular obligate aerobe. It is trophic for vascular endothelial cells, in which it replicates.[2, 3] Damage to the endothelial cells from direct invasion by the organism is thought to represent the underlying pathogenic process of RMSF. The systemic "vasculitis" results in the multi-system manifestations of RMSF.[4]

Rickettsiae rickettsii exists as a zoonosis in nature; a variety of birds and animal serve as reservoirs. A number of species of ticks are capable of transmitting the organism to humans. In Missouri, *Dermacentor variabilis* (American dog tick), *Amblyomma americanas* (brown-dog tick) and *Rhipicephalus sanguineus* (lone star tick) are present and capable of transmitting *R. rickettsii*. *Dermacentor andersoni* (wood tick), a prominent vector in other states, is not present in Missouri (personal communication, Robert Hall, Ph.D., De-

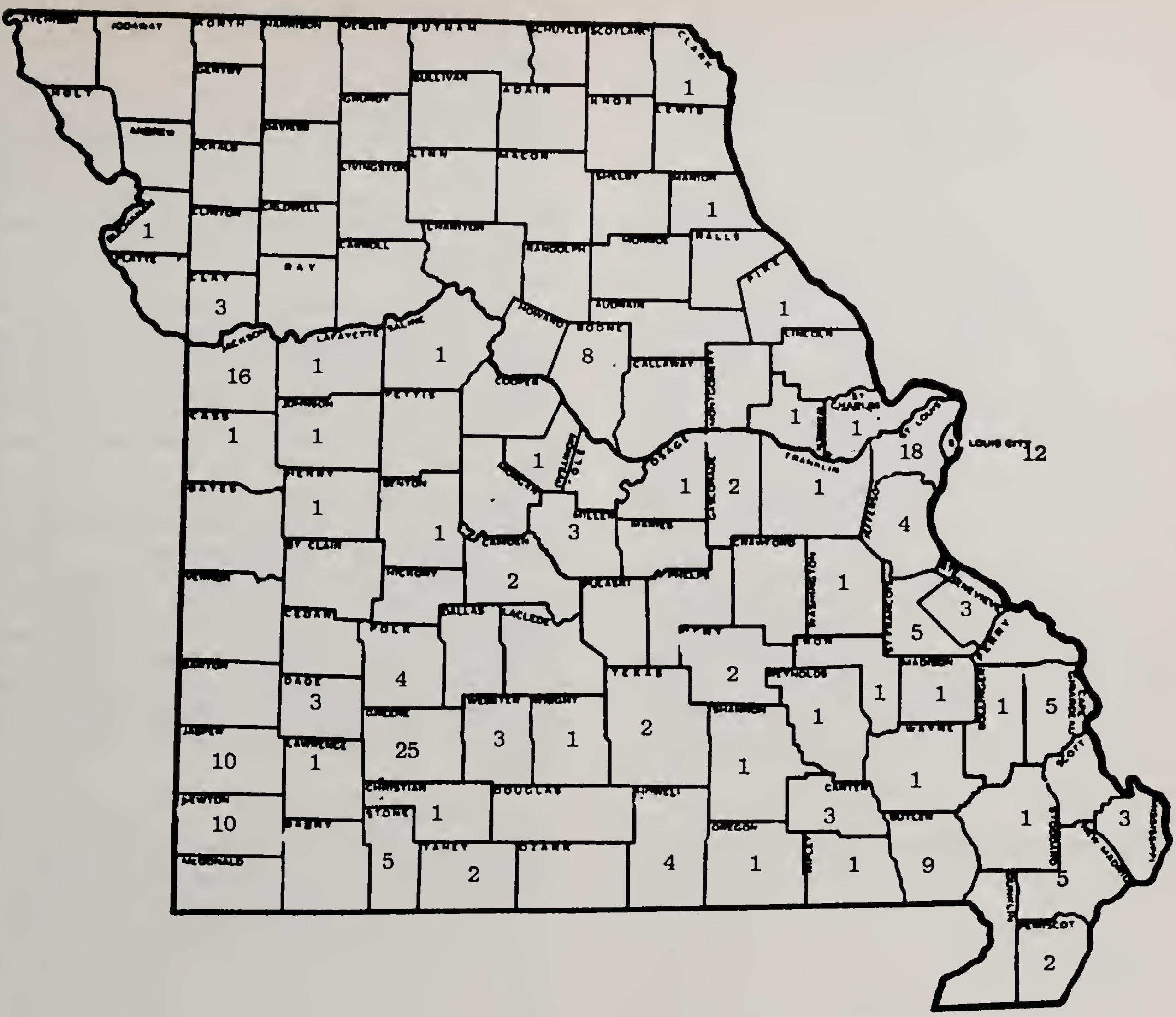
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Figure 1. Geographic distribution of the cases of RMSF as reported to the Missouri Department of Health by county of residence between 1974 and 1984.

partment of Entomology, Univeristy of Missouri-Columbia). The incidence of cases is greatest in the warmer months, coincident with the activity of the ticks. In the United States, the southeastern section of the country and the south central states bordering Missouri have the highest incidence of cases annually. The incubation period for RMSF is generally three to seven days.

Our 10 cases are comparable to those reported in the literature. Two large series of serologically confirmed cases have recently been reported detailing the epidemiologic, clinical, and laboratory findings. [5, 6] The importance of serological conformation of cases is underscored by the recent report of Wilfert, in which more than one third of cases clinically diagnosed as RMSF were not confirmed serologically.[7]

Fever, headache, and myalgias are nonspecific symptoms, but present with high frequency in RMSF. Rash, which is so critical to the clinical diagnosis, may be absent in up to 10% of cases. Westerman reported four fatal cases of "spotless fever" in which the diagnosis was made in each case at postmortem examination.[8] Two of our cases illustrate a delay in diagnosis because of the absence of a rash. Therefore, even in patients with these constitutional symptoms, who do not have a rash, a history of possible tick exposure should be sought.

Mental status changes were nonspecific and similar to those seen in many other toxic febrile states. None of our patients demonstrated meningismus, which is reported frequently in other series. However, the presence of fever and mental status abnormalities warranted CSF examination in seven of our 10 patients. Autopsy studies have demonstrated vasculitis involving brainstem, cerebellum, and cerebrum.[9-10]

Arrhythmias, myocarditis, and heart failure have been described. Vasculitic lesions of the endothelial cells have been demonstrated with sparing of the myocardial cells.[11] The arrhythmias described have most often been nodal in nature, with both bradycardia and tachycardia being described.[12]

Donahue evaluated lower respiratory tract involvement in 33 cases of RMSF.[13] Nineteen patients had no objective evidence of lower tract involvement. Fourteen had rales on auscultation, an abnormal chest radiograph, or abnormal gas exchange at some time in their illness. Infiltrates are often seen on chest radiographs and are thought to represent transudation of fluid from the vascular compartment into the interstitial spaces. Chest radiographs were frequently abnormal in our group. Both children had cardiomegaly and three adults had infiltrates or pulmonary edema. Lees reported abnormal chest radiograph findings in RMSF, including cardiomegaly, patchy alveolar infiltrates, interstitial infiltrates, and pleural effusions.[14]

Gastrointestinal symptoms are common in RMSF. Middleton reported the gastrointestinal manifestations of RMSF in 60 patients.[15] Approximately half of the patients had abdominal pain which was occasionally severe and mimicked an acute abdomen. Splenomegaly, hepatomegaly, and jaundice were infrequently found. Randall reviewed histopathological sections from the gastrointestinal tract, including stomach, pancreas, small intestine, and colon.[16] Vasculitis was present in all 28 cases reviewed, and half demonstrated *R. rickettsiae* by direct fluorescent antibody staining. These patients had frequent gastrointestinal symptoms, including anorexia, nausea, vomiting, pain, diarrhea, and hemorrhage similar to those seen in our patients.

One of our patients developed oliguric renal failure and subsequently died. Postmortem examination was not done. The cause of the renal failure was not clear, but Walker has reviewed renal histopathology in 10 fatal cases of RMSF and noted lymphocytic perivascular interstitial infiltrates in all cases. *Rickettsia rickettsiae* were identified by direct fluorescent antibody stain in tissue specimens of nine cases.[17] Glomerular lesions, vascular thrombi, and myoglobinuria were not seen. Hypotension was thought to contribute to tubular necrosis in some patients.

Leukopenia and thrombocytopenia were well documented in RMSF. However, lymphopenia, as noted in our patients, has not been previously mentioned. Coagulation abnormalities are well described, including prolongation of the prothrombin time and the activated partial thromboplastin time.[18-19] A bleeding diathesis was not seen in any of our patients, nor was there laboratory evidence of disseminated intravascular coagulation despite frequent thrombocytopenia. The regular feature of hyponatremia, as seen in our patients, is similar to other series. Sexton reported a single case with the syndrome of inappropriate secretion of antidiuretic hormone (SIADH).[20] Kaplowitz studies four patients with hyponatremia and found elevated serum levels of ADH in all.[21] All were felt to be hypovolemic with an appropriate ADH response.

CSF pleocytosis is reported in about one third of cases in whom a lumbar puncture is done. White blood cell counts are usually less than 100 cells/mm^3 and may demonstrate either neutrophil or lymphocyte predominance. Occasionally, markedly elevated cell counts are seen, and confusion with meningococcal meningitis can arise. CSF chemistries are usually normal.

Skin biopsy specimens stained with anti-rickettsial antibody conjugated with fluorescein have been reported to be helpful in establishing the diagnosis. Walker reported positive skin biopsies in nine of 17 confirmed cases studied.[22] False negative tests were attributed to early antibiotic therapy and failure to obtain tissue with histological evidence of vasculitis. In five of our cases, skin biopsy was performed and all were negative. Tissue specimens without evidence of vasculitis was a common finding.

Historically, the Weil-Felix test has been the serological test used to confirm RMSF. Despite its availability and ease of performance, the test has significant shortcomings. It is neither sensitive nor specific for RMSF. Agglutinating antibodies may be present in a variety of conditions, including hepatitis, leptospirosis, proteus infections, and other rickettsial infections.

More sensitive and specific serological tests have recently become available. These include complement fixation (CF), indirect fluorescent antibody (IFA), micro-immunofluorscence (MI) and enzyme-linked assays (ELA).[23-26] Importantly, some of these methods are capable of differentiating IgM from IgG antibody response and of speciating the rickettsiae. While none of these methods is as specific as isolating the organism, they represent advances over the Weil-Felix test.

Serum can be sent to the CDC for evaluation via the State Health Department. The CDC has provided results by CF and IFA. The IFA results include IgM and IgG titers. Given the time involved in obtaining results, however, they remain confirmatory studies. All cases of RMSF in Missouri should be reported to the State Health Department, Jefferson City.

Summary

We have reviewed the epidemiological clinical and laboratory findings and 10 patients with RMSF. The initial clinical manifestations of RMSF are frequently nonspecific, including fever, myalgias, and headache. In considering the diagnosis of RMSF, epidemiological considerations are important. Exposure to tick-infested areas, or recollection of a tick-bite, and occurrence of disease between April and October support a diagnosis RMSF. In Missouri, the disease is uncommon north of the Missouri River. Rash, if present, is helpful in making the diagnosis, but "spotless" fever can occur in up to 10% of cases and lack of rash should not preclude consideration of RMSF, espe-

cially soon after onset of symptoms. Multiorgan involvement is common, reflecting the underlying vasculitis. Laboratory studies may be helpful. A low or normal total white blood cell count in a toxic patient should raise suspicion of RMSF. Thrombocytopenia is a common finding, as was lymphopenia in our series.

Currently, serological studies are available to confirm the diagnosis. In suspected cases, acute and convalescent sera should be forwarded to the State Health Department. Tetracycline or chloramphenicol are appropriate antibiotic regimens. Chloramphenicol is the drug of choice in children, at a dose of 150 gm/kg/day. In adults 1 g every six hours is recommended. The drug is well absorbed orally and may be given either orally or intravenously. Tetracycline may be administered orally in a dose of 250 mg every six hours.

Hattwick, et al, compared 44 fatal cases of RMSF with 50 non-fatal cases.[27] They reported substantial delays in diagnosis and treatment in the fatal cases. These delays were attributable to late appearance of rash, no history of tick bite, and failure of the physician to consider RMSF, and were cited as the major factors contributing to mortality. An appreciation of the epidemiologic and clinical manifestations of RMSF in the state of Missouri will permit consideration of the diagnosis and prompt initiation of appropriate therapy.

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Carotid Endarterectomy

Results with Selective Shunt Use

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The use of intraluminal shunts in carotid endarterectomies is a practice of some controversy. In this patient series, the authors used intraoperative clinical neurological changes or EEG monitoring as the basis for selecting patients who would receive shunts. Their 410 patients experienced an overall immediate (intraoperative) ipsilateral stroke rate of 0.2% and mortality of 0.6%.

Atherosclerosis at the bifurcation of the common carotid artery is now widely recognized as one of the most common and significant etiologic factors in the pathogenesis of stroke in the adult population.[1] The process is especially significant because it occurs in a location that is readily accessible to methods of evaluation which are low-risk and highly accurate, leading to effective treatment. Carotid endarterectomy has evolved over the past two decades as the treatment of choice for symptomatic and certain carefully selected asymptomatic patients with atherosclerosis at the carotid bifurcation.

The decision regarding the use of an intraluminal shunt in the performance of a carotid endarterectomy remains controversial, though the surgical techniques have for the most part become standardized. This report details the results of carotid endarterectomy in 410 patients in whom an intraluminal shunt was used on a selective basis.

Materials and Methods

Four hundred and sixty-five carotid endarterectomies were performed at St. Luke's Hospital of Kansas City on a group of 410 patients: 260 men and 150 women. Ages ranged from 33 to 88 years of age. Their age distribution by decade is shown in Table 1, where the patient is listed by age of the first operation if bilateral procedures were performed.

Patient evaluation was individualized and involved internal medicine, neurologic, cardiologic, and neuro-ophthalmologic studies, isotope brain scan, computed tomographic (CT) head scan, echocardiography, non-invasive vascular laboratory studies, and intravenous digital subtraction angiography (IV-DSA) on a selective basis.

All patients routinely underwent high-quality cerebrovascular angiography using either conventional biplane techniques or intra-arterial digital sub-

Table 1
Age Distribution
(410 Patients)

Age Range	No. Patients
30-30 years	2
40-49 years	16
50-59 years	67
60-69 years	178
70-79 years	130
80-89 years	17

Table 2
Ipsilateral Stroke
(465 Operations)

	No. Operations	%
Immediate	1	0.2%
Delayed	6	1.3%
Total	7	1.5%

traction angiography (IA-DSA). Images obtained from IV-DSA were adequate in a few patients, obviating the need for intra-arterial angiography.

Carotid endarterectomy was routinely performed using systemic heparinization with continuous monitoring of the ECG and arterial blood pressure with an intra-arterial line. Swan-Ganz catheters were used in a few patients who were considered unusually high risk from the cardiac standpoint. Normocarbic general anesthesia was used in 353 operations, and regional anesthesia with a cervical plexus block was used in 112 operations. Continuous EEG monitoring was used in 428 operations, and the carotid stump pressure was recorded in 433 operations. In the last 213 operations antiplatelet drugs were routinely given preoperatively and continued postoperatively.

A temporary intraluminal carotid shunt was used on a selective basis in 80 (17%) operations. A variety of criteria for shunt need was considered in this experience, including angiographic patterns of disease, clinical neurologic status, carotid stump pressure, EEG changes, and clinical changes as judged under regional anesthesia in the awake patient.

Neurologic changes observed in the awake patient during the 112 operations performed with a cervical plexus block were the criteria used to determine shunt use when this anesthetic technique was used. This anesthetic technique works quite nicely for most patients but demands patient cooperation, and was not well tolerated by a few patients. Although no complications resulted, the technical difficulty of the operative procedure was increased in these cases. Many patients strongly prefer general anesthesia when anesthetic choices are discussed.

The EEG has evolved in this experience to be the most reliable and accurate criterion for shunt need when general anesthesia is used. A shunt was used in 13% of the operations in which the EEG data were the criteria for shunt use. Use of all other criteria mentioned above would have resulted in a substantially higher frequency of shunt use under general anesthesia. Operations performed on an emergency basis under general anesthesia without EEG monitoring are routinely shunted.

Intraoperative EEG monitoring was provided by the neurodiagnostic department under the direction and supervision of staff neurologist. A highly experienced EEG technician trained in intraoperative EEG monitoring was present throughout the operative procedure to monitor the EEG continuously. The criteria used to determine the need for a shunt included (a) the development of bilateral or ipsilateral slowing — defined as the development of delta and theta waves, or (b) development of voltage attenuation — defined by a 50% or greater decrease in voltage amplitude. Satisfactory intraoperative EEG monitoring requires careful coordination between the EEG technician and the anesthesiologist to avoid an anesthetic plane too deep to allow satisfactory EEG activity for monitoring.

All patients were carefully observed in an ICU setting for 24 hours postoperatively with continuous intra-arterial blood pressure monitoring, ECG monitoring, and frequent evaluation of the neurologic status and operative wound. Variations in blood pressure outside predetermined ranges for each patient were treated aggressively.

Results

A stroke in the hemisphere ipsilateral to the carotid endarterectomy occurred in seven patients, for a stroke rate of 1.5% (Table 2). An immediate stroke occurred in one patient (0.2%) during the operative procedure. It was associated with an EEG change, and a shunt was inserted promptly with the change in EEG. No immediate stroke occurred in the 373 patients in whom the operation was performed without a shunt. Six (1.3%) patients who awoke from anesthesia with no neurologic deficit developed a stroke between one hour to 12 days postoperatively.

Antiplatelet drugs were used routinely in the last 213 operations barring patient intolerance to these drugs. The first 252 operations were performed without the routine use of antiplatelet drugs, though patients may have received these medications for other reasons. Stroke occurred in six operations (2.4%) prior to routine use of antiplatelet drugs, and once (0.5%) after their routine use. Postoperative wound hematoma requiring reoperation, however, occurred following two operations (0.8%) prior to the routine use of antiplatelet drugs and following four operations (1.9%) after their routine use.

A stroke occurred in the cerebral hemisphere contralateral to the carotid endarterectomy in four (0.9%) patients during the period of hospitalization. The contralateral carotid artery was stenotic in one and occluded in three of these patients.

Table 3

Operative Mortality
(465 Operations)

Cause	No. Patients
Cardiac	1
Ischemic Stroke	1
Cerebral Hemorrhage	1
Total	3 (0.6%)

Table 4

Author	Permanent Stroke (%)	Mortality(%)
Hafner[4]	0.6	0.2
Baker[5]	1.8	0.6
Peitzman[6]	2.2	0.9
Perdue[7]	0.5	0.7
Sundt[8]	2.0	1.5
Reported Series	1.5	0.6

Death occurred following three operations (0.6%) (Table 3). Cardiac etiology and stroke were responsible for the death of one patient each. The third patient died following a craniotomy for evacuation of an intracerebral hematoma which occurred ipsilateral to a carotid endarterectomy performed 12 days earlier. This patient has received no anticoagulants or antiplatelet drugs.

Discussion

The stroke rate and mortality rate are the primary factors which reflect a satisfactory result from the use of carotid endarterectomy in treating atherosclerosis of the carotid bifurcation. Disturbingly poor results have recently been published by Brott[2] and Easton[3] with a combined stroke-mortality rate of 9.5% and 21.1% in the respective reports. A combined stroke-mortality rate in the range of 3% to 4% is, however, reported for most major centers involved in carotid endarterectomy.[4-8] The results in Table 4 summarize both with and without the use of a shunt, reflecting the fact that acceptable results may be achieved with either method.

Each personal experience with carotid endarterectomy must be carefully analyzed to determined the cause of stroke or mortality in order for improvement to be achieved. The stroke factor can be subdivided into the intraoperative (immediate) and the postoperative period (delayed). Many factors may influence both the immediate and the delayed stroke rates, but the factor of intraoperative cerebral monitoring and protection will be reflected only in the immediate stroke rate. The delayed stroke rate will be more influenced by technical and thrombotic factors.

The method of selective shunt use in carotid endarterectomy is predicated on the accurate detection of a few patients who would have inadequate collateral cerebral blood flow during carotid occlusion and would therefore be at higher risk for cerebral infarction if a shunt were not used. An objective of this method is to use the shunt only when necessary and thereby avoid any risk of stroke introduced by the use of the shunt.[9]

In this experience, an overall stroke rate of 1.5% was achieved with selective shunt use. Only one (0.2%) immediate ipsilateral stroke occurred, and this was associated with a change in the EEG and the use of a shunt. No patient experienced an immediate stroke in the group of patients under regional anesthesia who were monitored on a clinical basis. The EEG has evolved in this experience as the sole criterion for shunt use under general anesthesia and has resulted in a 13% incidence of shunt use. The EEG has proven in this experience to be a 100% accurate and reliable method of cerebral monitoring, providing optimal data for cerebral protection and prevention of immediate stroke.

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Gonorrhea in Children

Kansas City, 1982 to 1984

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The diagnosis of gonorrhea in children under age 15 requires specialized handling. In this study, Kansas City Department of Health records of childhood gonorrhea cases are reviewed, and the data summarized in terms of follow-up treatment, epidemiologic tracing of contacts, and use of Health Department data in child-abuse investigations.

With the exception of neonatal infection, recent reviews on the epidemiology of gonorrhea provide virtually no information about the disease in children less than 15 years of age.[1-2] Existing reports on gonorrhea in this age group, for the most part, are concerned with small sample sizes, the experience of a private medical care provider, or with treatment[3-9] This report addresses all reported gonorrhea cases in children and young adolescents in Kansas City, Mo., for the time period 1982-1984.

Method

Cases of gonorrhea are reported to the Kansas City Health Department through its sexually transmitted (STD) clinic, public and private hospitals, and physicians. While these reports vary in completeness, the basic information contains name, locating information, age, sex, laboratory results, and other pertinent information. Field epidemiologists investigate each to identify sexual contacts. Either prophylactic or curative therapy is provided to these contacts. Culture-positive contacts are, in turn, interviewed for their sexual contacts.

The number-one priority of the Kansas City Health Department's STD field staff is follow-up of reported gonorrhea in children under 15 years of age. With the exception of cases of neonatal infection, interviews are conducted to ascertain whether the infected children had sex voluntarily with adolescent peers, if the sexual relations involved play/experimentation between younger children, or if sexual abuse/assault may have occurred. Cases of gonorrhea in children under 15 years of age which are determined to result from voluntary sex with adolescent peers are processed in the same manner as cases in adults. Named contacts are evaluated and treated. All information is kept confidential, and the Health Department does not initiate contact with the parents or guardians.

In situations not involving clearly defined voluntary sex, an expanded investigation is instituted involving all persons residing in the household and other individuals, including children, who have had significant association with the infected child. These people are referred to as "associates." If the child possesses sufficient language skills and comprehension, a private interview is conducted. In cases in

Table 1

Reported Gonorrhea in Kansas City, Missouri, 1982-1984

Year	Cases Total	< 15 y	Rate/100,000 persons Total	> 15 y	< 15 y
1982	6,082	83	1357.1	1523.8	152.4
1983	6,024	64	1344.2	1513.9	117.4
1984	5,915	84	1319.8	1502.5	154.2
Total	18,021	231	1340.4	1506.3	141.4

Table 2

Distribution of 231 Gonorrhea Cases in Children Less than 15 Years of Age, Kansas City, Missouri, 1982-1984

Category	Number of children	Male	Female	Percent of cases
Voluntary sex*	186	35	151	80.5
Neonatal	5	1	4	2.2
Other	40	8	32	17.3
Total	231	44	187	100.0

* Mutally voluntary sex between adolescent peers.

which the child is unable to communicate or understand, the mother and siblings are used as primary sources of information. Otherwise, the mother and siblings are utilized as secondary sources to clarify ambiguous information.

The field epidemiologist request that all associates of the child go to the Health Department or their private physician for evaluation. Oral, rectal, and either cervical or urethral cultures are obtained on all persons evaluated. Laboratory testing is done by the Health Department. Culture-positive individuals are brought back for treatment and epidemiologic follow-up. At no time is a cause-and-effect relationship between their infection and that of the index case suggested or implied.

It is not uncommon for the Missouri Division of Family Services to be involved concurrently with the same case. It is not the role of the Health Department to pursue prosecution of alleged sexual abusers of children. However, it is vital that all culture data and medical/epidemiological records be legally acceptable as courtroom evidence. Confirmatory tests are performed on all positive cultures.

Results

During the period 1982-1984, there were 18,021 cases of gonorrhea reported in Kansas City (Table 1). Two hundred and thirty-one (1.3%) of these cases occurred in children less than 15 years of age, of which 35.5% were reported by private medical care providers. Of these 231 cases, 1986 (80.5%) involved mutually voluntary sex between adolescent peers (Table 2). The male-to-female ratio of these 186 cases was 1:4.3, while the white-to-black was 1:92. Black females accounted for 82.4% of the cases.

There were five cases (2.2%) of neonatal gonorrhea. Four of the cases were ophthalmia neonatorum. The fifth case involved disseminated infection, this child died. Four of the children were black, and four were female.

Forty cases (17.3%) occurred in children who did not fit into the above two groups. The male-to-female and white-to-black ratios were both 1:4. Ninety percent of these children were less than 9 years of age. The importance of performing cultures on all three body sites in these cases cannot be overemphasized. In this series, three of the 40 cases would have been missed entirely if only genital cultures had been performed.

Epidemiologic investigation of these 40 cases yielded 256 persons who were clinically evaluated for gonorrhea, of whom 231 were household members. In 15 of the 40 cases (37.5%), no culture-positive associates were found (Table 3). The remaining 25 cases resulted in the detection of 38 culture-positive individuals, of whom 23 (60.5%) were members of the child's household. The culture-positive household members included eight mothers of infected children, six aunts, three cousins, two brothers, and one each of a father, stepfather, uncle, and sister. Eleven of the remaining 15 gonorrhea-positive associates appar-

Table 3

Juvenile Gonorrhea in Kansas City, Missouri, 1982-1984
Culture Positive Associates Found Per Case

	Number of Cases	*Percent of Cases*
0 positive associates found	15	37.5%
1 positive associate found	16	40.0%
2 positive associates found	7	17.5%
3 + positive associates found	2	5.0%
Total cases	40	100%

ently were not living in the household, but were frequent visitors. They included six friends of the family and five sex partners of the mother or an aunt living in the household. The other four culture-positive associates were neighbors and other relatives not living in the household.

Sixty-one percent (23/38) of the culture positive associates were found to be infected at body sites compatible with the site of infection in 18 of the 25 children. In three situations the most probably mode of transmission of gonorrhea was through sexual play/experimentation between children, while the remaining 15 incidents most likely involved sexual abuse/assault.

Discussion

Of the major cities in the United States, Kansas City ranked 15th in 1983 for reported gonorrhea morbidity, while St. Louis ranked 4th.[10] Missouri ranked 16th among the states this year. The percentage of reported cases of gonorrhea in children less than 15 years of age in Kansas City was 1.3% during 1982-1984, not significantly different from the 1.1% observed nationally for the same period.

Most published reports on gonorrhea in children refer to small sample sizes or the experience of a given medical care provider.[3, 4, 6-9] A study[11] by the Los Angeles Health Department in 1960-1963 provides the only comparable city data available to the authors of the present analysis (Table 4). A number of obvious differences exist between the two studies, in terms of the number of cases and their allocation to modes of disease transmission. Changes in demographics,[12] sexual attitudes, and medical care over the 20 years between the studies must be considered. However, certain observations, such as the impressive ratios of girls to boys and non-whites to whites (4:1 in both cases in our study) held true and have been observed in other studies.[3, 4, 6-9]

Table 4

Comparison of Reported Gonorrhea in Children Less than 15 Years of Age, Los Angeles, California (1960-1963), and Kansas City, Missouri (1982-1984).

Mode of transmission	*Los Angeles*	*Kansas City*
Birth canal	11	5
Contamination*	10	0
Voluntary sex	110	189
Abuse/assault	48	15
Unknown	1	22

* Conjunctivitis in post-neonatal children.

More than 90% of the children with gonorrhea in Kansas City resided in census tracts constituting the central core area of gonorrhea morbidity. These census tracts are characterized by high population density and low socioeconomic status.[13-14] Each tract has an overall gonorrhea incidence of more than 50 cases per year, with 10 of the 23 tracts having in excess of 100 cases per year. This observation is reinforced when one examines the prepubertal cases. The finding of 38 culture-positive associates out of 256 persons examined yields an incidence rate 11.1 times that for the population of Kansas City, Mo., in general. Also, six of the 38 culture positive associates had a combined total of 11 prior treatments for gonorrhea by the Health Department within the three years preceding investigation of the index child's infection.

Epidemiologic investigation of gonorrhea in neonates and young adolescents participating in mutually voluntary sex are relatively straightforward. The difficulty arises in discerning the source of gonorrhea in prepubertal children. Part of the difficulty in evaluating this problem is that the peak age group involved is between 2 and 5 years of age.[9, 15, 16] More than half of the children less than 10 years old in Kansas City who were diagnosed with gonorrhea were actually less than 5 years old, an observation consistent with other reports in the literature.[3-9, 15-17] Accurate and reliable histories are difficult to obtain in these cases.

The child's language and comprehension skills often are a barrier to obtaining information, and other persons interviewed as primary or secondary sources may not be reliable. These individuals may be protecting themselves or others and may even deliberately mislead the investigator. While many children are capable of being interviewed, some have no idea of what has happened to them. Others repeat a particular story as if it had been rehearsed and memorized. Interviews with still other children may elicit a series of disjointed, irrelevant statements.

Other investigators have pointed out the necessity of obtaining cultures from family members and other associates when investigating a case of gonorrhea in a prepubertal child.[9, 16-17] In the experience of the Kansas City Health Department this is especially important and, when possible, cultures should be obtained from all close associates whether residing in or out of the household.[15] Often the families involved in these investigations are extended families, and children may spend time in more than one house. It is not unusual to examine 10 or more persons per case. During 1982-1984, the Kansas City Health Department averaged 6.4 persons examined per case, with a range of two to 21 associates. The data on culture-positive associates and site compatibility provide three major benefits. First, they provide for the identification of other infected individuals, symptomatic and asymptomatic, so they may be epidemiologically investigated, brought to treatment and the chain of infection broken. Second, they support or refute the probability of a given individual being the most likely source of infection for the child. And third, they provide information upon which the Missouri Division of Family Services may base a decision regarding the appropriateness of the child's living situation.

The diagnosis of gonorrhea in a prepubertal child dictates reports to both protective services and the local health department.[18] It should not be assumed that the two agencies will communiate with each other. Unless hospitals, health department clinics, physicians, and other health care providers maintain a high index of suspicion, culture all body sites, and report all cases of gonorrhea, the wide gap between actual and reported cases will never narrow.

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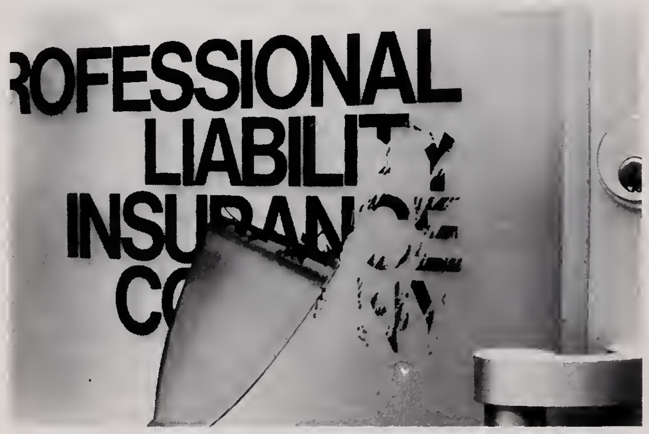

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Myofascial Pain

What Is It?

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A common patient complaint, myofascial pain is a syndrome characterized by the presence of pain-referring trigger points. The identification and management of the syndrome are discussed.

Musculoskeletal pain is far from a new concept, and a great deal of non-specific literature on the subject exists in the older works.[1] Recent literature has expanded our understanding of the concept and cause of musculoskeletal pain.

The syndrome known today as "myofascial pain," "fibromyalgia," or "fibromyositis," has been described for well over a century. Initial discussion revolved around muscular pain in which palpable, painful, hard cords were noted in muscles of various areas of the body.[2] Most frequently today, the syndrome is referred to as myofascial pain,[3] and denotes musculoskeletal pain with trigger points.

Myofascial pain and trigger points are described by Travell and Simons[3] as a "hyperirritable locus within a taut band of muscle, located in the muscular tissue and/or its associated fascia." Trigger points are the hallmark of true myofascial pain and can be found easily by palpation of the affected muscles. Distinct tissue changes are hard to demonstrate and are nonspecific[4] by histologic criteria. Trigger points may cause autonomic symptoms, such as nausea, dizziness, a feeling of imbalance, tinnitus, pilomotor activity, and even coryza and salivation.[5]

Characteristic symptoms of myofascial syndrome and trigger points are locally increased intensity of pain and referral of pain to remote areas upon palpation of the trigger point, such as down an arm or up a neck, depending on the location of the trigger point itself. Trigger points are not necessarily symmetrical, but the referred pain usually follows a dermatomal pattern. The pattern, however, may not be reproducible from one examination to the next.[6] Trigger point pain is also intensified by insertion of a needle, exposure to cold or periods of inactivity, or after periods of muscular exertion. The occurrence of increased pain after cooling of the muscles following exertion has been termed by some authors as "myogelosis."[7]

Trigger points have been described in almost every location of the body. The neck and shoulders are common locations and are often seen in patients with poor posture, with jobs requiring poor postural position or muscular strain, following traumatic muscular insult, and even after viral illnesses.[3] Activation of trigger points in the head and neck region may result in dizziness or tension headaches. Trigger points in the upper shoulder may refer pain into the arm. Lower

Table 1

Conditions Aggravating Myofascial Pain

1. Repeated Muscular Contraction or Overwork
2. Exposure to Cold Drafts
3. Nervous Tension
4. Viral Illnesses
5. Immobilization of Involved Areas
6. Poor Postural Control and Work Conditions
7. General Deconditioning
8. Metabolic Conditions; ie: Hypo or Hyperthyroidism
9. Underlying Nerve Compression Lesions

back trigger points may refer pain down into the buttocks and upper thighs. The referred pain may or may not follow a pattern of radiculopathy, as mentioned previously.

Diagnosis of myofascial syndrome and trigger point problems is purely clinical. Laboratory findings and x-rays characteristically disclose no abnormalities. History and physical examination are most essential to the diagnosis. History may include a description of trauma, strain, or overuse. Onset may be sudden, but often builds in intenstiy and is aggravated by immobilization. The pain may have a radiating quality and may be described as a "cold, dull ache." Headaches resulting from cervical and upper trunk myofascial pain may have a crescendo nature, with pain relieved by sleep or a relaxed rest period. Photophobia, throbbing temporal pain, or true sensory or motor loss are not characteristic. Overall strength in an involved extremity may be diminished during enhanced trigger point activity[5] due to associated pain with muscular activity. Persistent weakness in identifiable root innervated muscles requires further investigation. Physical examination most often reveals no organically identifiable changes, except definite palpable nodules or "lumpiness" in the muscles where trigger points are located. No muscle atrophy should be seen; paralysis and true hypesthesia or sensory loss should also be absent. Although reflex changes have been reported to be decreased or absent with active trigger points,[3] the presence of reflex changes should alert one to other problems. It should be noted that while myofascial pain and trigger points can occur as a primary problem, the occurrence of myofascial pain complex may be secondary to predisposing conditions which promote muscle spasm and stiffness, leading to muscle overuse. Among the many predisposing factors are proximal or distal nerve compression lesions, joint dysfunction and primary muscle disease. (See Table 1.)

Since there are inciting causes for myofascial pain, perpetuating factors must be sought and dealt with. This concept of treating the underlying problems is essential if one is to have success in reducing the symptoms and the chances of recurrence of symptoms. Perpetuating causes for myofascial pain are, as mentioned, numerous. Besides ruling out nerve lesions and other organic-structural abnormalities, one must consider postural changes, stress of any cause, sleep disturbances, limited range of motion, and general weakness. Any combination of problems may exist, and each must be dealt with if the patient is to obtain relief.

Treatment for myofascial pain may take several approaches. Whatever techniques are used, one essential ingredient is stretch. Muscular stretch is the single most important treatment, and techniques for this are well described.[8] Adjunctive treatments may consist of heating or cooling, and relaxants or anti-inflammatories. It should be noted that medications generally add little to therapy, although muscle relaxants may assist in acute spasm. In our office, cooling and then stretching the involved muscles seems to work well. While cold exposure can intensify the symptoms of myofascial pain, chilling is the detrimental agent. "Chilling" in this case refers to the cooling that occurs after cessation of muscular activity with concomitant "gelling" effect on the muscles. Application of intense cold to trigger points has a beneficial effect, resulting in decreased trigger point activity. One method employs application of intense cold for 20 minutes, followed by muscle stretch. Care must be taken, however, to protect the skin from frostbite by placing a cloth interface between the cold source and the skin. Cold may also be applied by flourimethane spray, followed by stretching of the muscles. The flourimethane technique, well described by Travell and Simons,[8] is an easy office treatment, which can be applied by the physician or a therapist under the direction of the physician.

Restoration of normal mobility in joints and flexibility of soft tissues is the ultimate goal if myofascial pain is to be decreased, much less cured. Mobilization of large and small joints and soft tissues is also a valuable tool in treating the loss of range of motion often seen in myofascial pain patients. Mobilization techniques have been described by a number of clinical workers[9, 10] and vary with the skill and philosophy of motion of the individual authors. Which methods of mobilization are prescribed will depend on the physician's assessment and the physician's knowledge of the skill of his treating therapists.

In summary, myofascial pain is a symptom complex with many contributing factors, characterized by the presence of trigger points and muscular stiffness. Characteristically, all laboratory investigation is negative, and other defined major illnesses are generally absent. Trigger points may coexist with or be secondary to conditions which result in muscular overuse and subsequent stiffness. Perpetuating causes must be treated if recurrent problems are to be avoided. Treatment consists of reduction of muscular pain, but primary treatment must be directed at muscle stretch, reconditioning, and an avoidance of aggravating causes.

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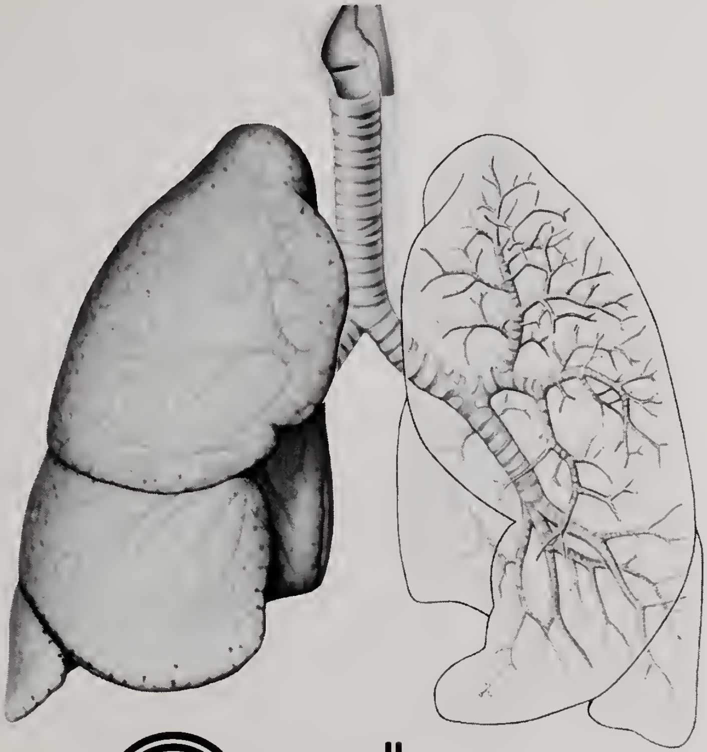

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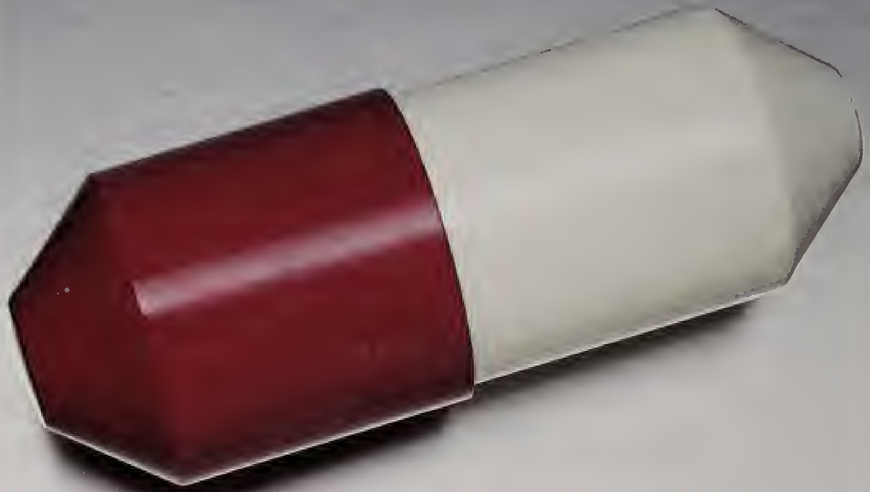

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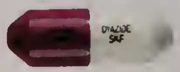

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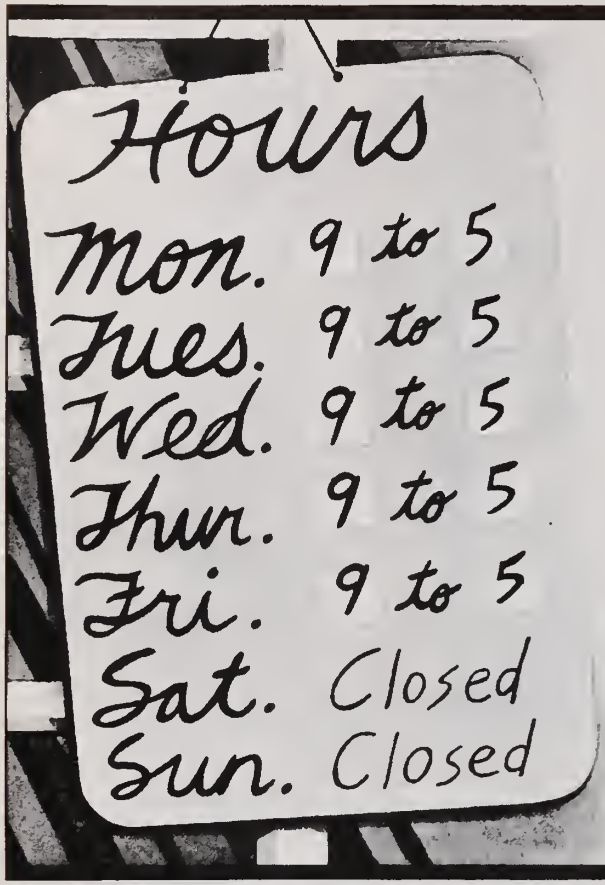

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25-27 **Third Regional Conference: Critical Path in Disease & Trauma** — Location: Breckenridge on the Lake, Osage Beach. Contact: Marian Minter, American College of Emergency Physicians, 15073 Green Circle Dr., Chesterfield, MO 63107. 314/527-2185.

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5 **Primary Care Update** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

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24 **The Office Treatment of Hypertension** — Location: St. Louis Sheraton Westport Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

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24-26 **Two-Dimensional Doppler Echocardiography** — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

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25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

29-30 **Missouri Perinatal Association Clinical Conference** — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

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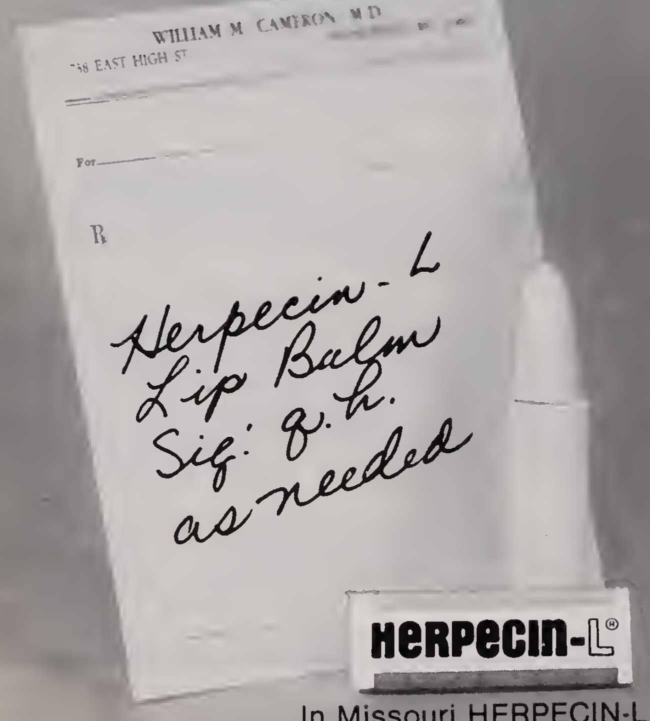

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Forty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during March 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

John B. Arthaud, *Columbia*
Richard A. Heimburger, *Columbia*
Carl H. Ide, *Columbia*
Allen L. Neese, *Columbia*
David L. Pittman, *Columbia*
Charles L. Puckett, *Columbia*
Harold L. Sanders, *Columbia*

Butler-Wayne-Ripley-Carter

Henry E. Lestmann, *Fairdealing*

Cape Girardeau

Jerry L. Kinder, *Cape Girardeau*
Kenneth W. Koldys, *Cape Girardeau*
Vijaya K. Mangunta, *Jackson*

Franklin-Gasconade-Warren

James T. Shaw, *Hermann*

Greene

Darrel D. Domann, *Springfield*

Jackson

William F. Bell, *Lee's Summit*
Robert A. Chandler, *Kansas City*
Jerry C. Freeman, *Kansas City*
Larry G. Piepergerdes, *Kansas City*
Carol A. Ryser, *Kansas City*
Carl N. Stout, *Kansas City*
Alberto Suarez, *Lee's Summit*
Milagros E. L. Tiojanco, *Kansas City*
Reynaldo R. Tiojanco, *Kansas City*
Paul A. Williams, *Kansas City*

Jasper

John E. Goff, *Joplin*
William Levanvo, *Joplin*

Jefferson

Narendar K. Datta, *Crystal City*

Mineral Area

Charles W. Chastain, *Flat River*

Northeast

John A. Memken, *Hannibal*

Saline

Bedford F. Knipschild, *Marshall*

South Central

Bruce E. Preston, *West Plains*
Robert D. Shaw, *Willow Springs*
Ambrose T. Walker, *Thayer*
Joe A. Wall, *Houston*

St. Louis

Shael S. Bronson, *St. Louis*
Carl H. D. Calman, *St. Louis*
Wilfrido C. Feliciano, *St. Louis*
Edward P. Feutz, *Clayton*
Robert B. Holloway, *St. Louis*
Michael J. Isserman, *St. Louis*
Billy F. Kay, *St. Louis*
Timothy R. O'Connell, *St. Louis*
Robert F. Owen, *St. Louis*
Raymond E. Shively, *St. Louis*
David A. Terschluse, *Bridgeton*
Bruce J. Walz, *St. Louis*
John T. Yetter, *Berkeley*

In Memoriam

■ **Frank H. Birsner, M.D.,** Rt. 1, Box 1106, Joplin 64801, graduate of Washington University, 1943; member of Jasper County Medical Society; age 70; died April 29, 1986.

■ **James F. Bryan, M.D.,** 242 Bristol Road, St. Louis 63119; graduate of Washington University, 1936; member of St. Louis Metropolitan Medical Society; age 74; died April 7, 1986.

■ **Wm. D. Chute, M.D.,** 528 W. Carpenter, Moberly 65270; graduate of University of Nebraska, 1944; member of the Chariton-Macon-Monroe-Randolph Medical Society; age 77, died April 12, 1986.

■ **Allen L. Spafford, M.D.,** 5552 Belinder Rd., Shawnee Mission, Ks. 66205, graduate of St.Louis University, 1931; member of Jackson County Medical Society; age 80; died March 25, 1986.

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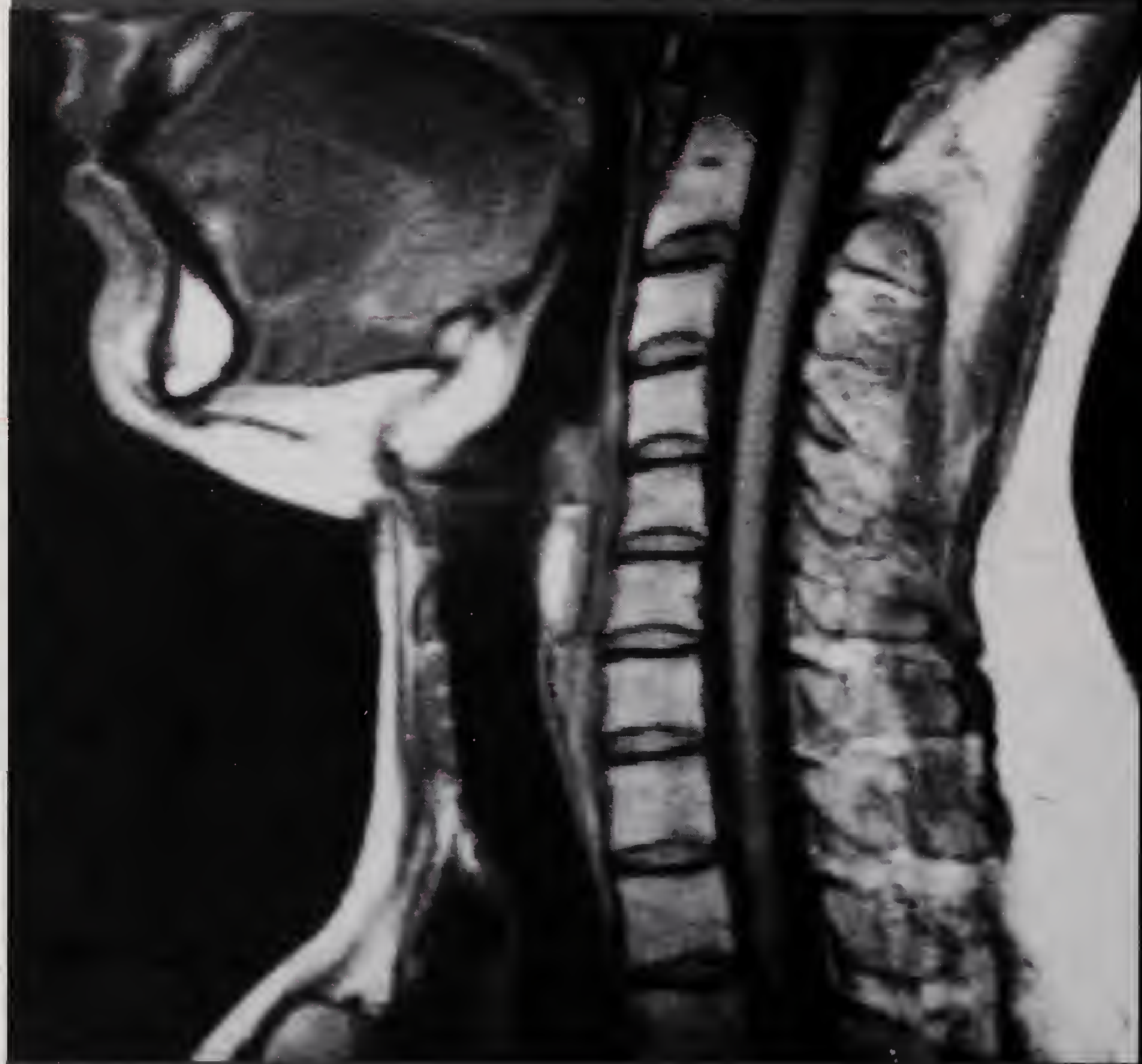

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New Members

■ **Jayendra B. Astik, M.D.,** Burkarth Road, Warrensburg 64093, has become a member of the Johnson County Medical Society. Dr. Astik received his preliminary education at M.S. University, Baroda, Gusrat, India and his medical degree at M.S. University, Baroda, Gusrat, India in 1976. He completed his residency training at Catholic Medical Center of Queens & Brooklyn. He specializes in internal medicine.

■ **John A. Best, M.D.,** 224 South Woods Mill Rd., Chesterfield 63107, has become a member of the St. Louis Metropolitan Medical Society. Dr. Best received his preliminary education at Indiana University and his medical degree at the University of Rome, Italy in 1977. He completed his residency training at St. Lukes, St. Louis. He specializes in internal medicine.

■ **Craig F. Beyer, D.O.,** 7536 Wydown, Clayton 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Beyer received his preliminary education at the University of Missouri-Columbia and his osteopathic degree at the Kansas City College of Osteopathy and Surgery in 1984. He is completing his residency training at St. Louis University. He specializes in ophthalmology.

■ **John D. DeSpain, M.D.,** M173, University of Missouri-Columbia Hospital, Columbia 65212, has become a member of the Boone County Medical Society. Dr. DeSpain received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1984. He is completing his residency training at the University of Missouri-Columbia. He specializes in dermatology.

■ **Roland S. Dharmay, M.D.,** Fulton State Hospital, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Dharmay received his preliminary education at the University of Ceylon and his medical degree at the University of Ceylon in 1964. He completed his residency training at Fresno County Department of Health, San Francisco. He specializes in psychiatry.

■ **Jesse H. Eisenman, M.D.,** 4949 West Pine 5-0, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Eisenman received his preliminary education at the University of Delaware and his medical degree at Jefferson Medical College in 1980. He is completing his residency training at St. Louis University Hospital. He specializes in internal medicine.

■ **Patricia Hartwell, M.D.,** 1144 Edward Terrace, Richmond Heights 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hartwell received her preliminary education at Johns Hopkins University and her medical degree at the University of New Mexico in 1981. She is completing her residency training at Barnes Hospital. She specializes in anesthesiology.

■ **Deborah A. Herbst, M.D.,** 5328-A Itaska, St. Louis 63109, has become a member of the St. Louis Metropolitan Medical Society. Dr. Herbst received her preliminary education at Loyola Marymont University and her medical degree at St. Louis University in 1981. She completed her residency training at St. Louis University and Cardinal Glennon Hospital. She specializes in pediatrics.

■ **Richard S. Levine, M.D.,** 615 S. New Ballas Rd., Creve Coeur 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Levine received his preliminary education at the University of Rochester and his medical degree at the University of Rochester in 1978. He completed his residency training at the Hospital of the University of Pennsylvania. He specializes in diagnostic radiology.

■ **Virginia L. Martin, M.D.,** 1869 Calamaide Dr., Maryland Heights 63043, has become a member of the St. Louis Metropolitan Medical Society. Dr. Martin received her preliminary education at the University of Missouri-St.Louis and her medical degree at the University of Missouri-Columbia in 1978. She completed her residency training at Los Angeles County-University of Southern California. She specializes in obstetrics and gynecology and reproductive endocrinology.

■ **Timothy W. McPherson, D.O.,** 115 North Walnut, Steele 63877, has become a member of the Pemiscot County Medical Society. Dr. McPherson received his preliminary education at Southwest Missouri State University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1984. He completed his internship at Parkview Hospital, Toledo, Ohio. He specializes in general practice.

■ **Selwyn Picker, M.D.,** 660 S. Euclid, Box 8057, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Picker received his preliminary education at Witwatersrand University and his medical degree at Witwatersrand University in 1972. He completed his residency training at Barnes Hospital. He specializes in neurosurgery and pediatric neurosurgery.

■ **Susan K. Reynolds, M.D.,** Suite 70G Grasso Plaza, Affton 63123, has become a member of the St. Louis Metropolitan Medical Society. Dr. Reynolds received her preliminary education at Washington University and her medical degree at Baylor College in 1979. She completed her residency training at Lutheran Medical Center. She specializes in family practice.

■ **Keith M. Rich, M.D.,** 660 S. Euclid, Box 8057, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rich received his preliminary education at Taylor University and his medical degree at Indiana University in 1977. He completed his residency training at Barnes Hospital. He specializes in neurosurgery.

■ **Bruce S. Schlafly, M.D.,** 1006 Chesham Rd., Louisville, KY 40207, has become a member of the St. Louis Metropolitan Medical Society. Dr. Schlafly received his preliminary education at Washington University and his medical degree at Washington University in 1980. He is completing a fellowship at the University of Louisville. He specializes in orthopaedic surgery and hand surgery.

St. Louis University
Mary Pat McManmon

University of Missouri-Columbia
Karen Bay
Damon C. Clines
Debra Howenstine
Earl John Wipfler, III

University of Missouri-Kansas City
Eric A. Kalhoefer

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J-6138 January 1986

"High blood pressure should be a red flag to screen for cholesterol..."[1]

290
270
250
230
210
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170
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70
50
30

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If your patients have hypertension, they probably have high cholesterol too.

The Framingham Heart Study[2] showed that over two thirds of the 35 and older population in that study with systolic blood pressures over 145 mmHg also had serum cholesterol levels of 225 mg/dL or more, and 46% had levels above 250 mg/dL.

While many clinical laboratories still report 250 mg/dL as "normal" cholesterol, the NIH Consensus Development Conference Statement on Cholesterol and Heart Disease[3] stated that any level above 220 mg/dL is associated with a significantly increased risk of coronary heart disease.

You need to know, because high cholesterol parallels high blood pressure as a CHD risk factor.

Epidemiological studies and large-scale prevention trials have indicated that as with blood pressure, serum cholesterol levels are proportionately related to CHD risk.

Specifically, *"...for every 10 mmHg rise in pressure, there appears to be about a 30% rise in cardiovascular risk."*[4] *"...for every one percent you go up the American cholesterol scale, your subsequent rate of heart attack rises two to three percent."*[5]

And although the specific impact on CHD has not been determined, we know that many of the principal agents used to lower blood pressure actually increase cholesterol.

Wytensin® lowers blood pressure effectively without raising cholesterol.

While Wytensin is not a cholesterol-lowering agent and is not indicated for the treatment of hyperlipidemia, in controlled clinical trials[6] it caused a slight, sustained decrease in total cholesterol without reducing the HDL fraction or altering serum triglycerides.

At the same time, Wytensin lowered blood pressure as effectively as hydrochlorothiazide, propranolol, clonidine or methyldopa. Drowsiness and/or dry mouth, the most frequent side effects noted with Wytensin, usually diminish or disappear over time. In fact, in double-blind studies to date, discontinuance of therapy for all side effects occurred in about 13% of patients.

WyTensin®
(guanabenz acetate)

Antihypertensive therapy that does not increase cholesterol

See important information on following page.

References: 1. Glueck CJ: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 2. *The Framingham Study, An epidemiological investigation of cardiovascular disease*, Section 28, U.S. Dept. of Health, Education, and Welfare. 3. National Institutes of Health Consensus Development Conference Statement, 1984: Vol 5, No 7, p 4. 4. Chobanian AV: The influence of hypertension and other hemodynamic factors in atherogenesis. *Progress in Cardiovascular Diseases, XXVI* (3): 177, Nov/Dec, 1983. 5. Castelli WP: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 6. Data on file, Wyeth Laboratories.

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WyTensin®
(guanabenz acetate)

Antihypertensive therapy that does not increase cholesterol

Brief Summary

Before prescribing, consult the complete package circular.

Indications and Usage: Treatment of hypertension, alone or in combination with a thiazide diuretic.

Contraindication: Known sensitivity to the drug.

Precautions: 1. Sedation Causes sedation or drowsiness in a large fraction of patients. When used with centrally active depressants, e g., phenothiazines, barbiturates and benzodiazepines, consider potential for additive sedative effects. 2. Patients with vascular insufficiency: Like other antihypertensives use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease, or severe hepatic or renal failure 3 Rebound: Sudden cessation of therapy with central alpha agonists like **Wytensin** may rarely result in "overshoot" hypertension and more commonly produces increase in serum catecholamines and subjective symptomatology

INFORMATION FOR PATIENTS: Advise patients on **Wytensin** to exercise caution when operating dangerous machinery or motor vehicles until it is determined they do not become drowsy or dizzy. Warn patients that tolerance for alcohol and other CNS depressants may be diminished Advise patients not to discontinue therapy abruptly

LAB TESTS In clinical trials, no clinically significant lab test abnormalities were identified during acute or chronic therapy Tests included CBC, urinalysis, electrolytes, SGOT, bilirubin, alkaline phosphatase, uric acid, BUN, creatinine, glucose, calcium, phosphorus, total protein, and Coombs' test During long-term use there was small decrease in serum cholesterol and total triglycerides without change in high-density lipoprotein fraction. In rare instances occasional nonprogressive increase in liver enzymes was observed, but no clinical evidence of hepatic disease.

DRUG INTERACTIONS **Wytensin** was not demonstrated to cause drug interactions when given with other drugs, e g., digitalis, diuretics, analgesics, anxiolytics, and antiinflammatory or antiinfective agents, in clinical trials However, potential for increased sedation when given concomitantly with CNS depressants should be noted

DRUG/LAB TEST INTERACTIONS. No lab test abnormalities were identified with **Wytensin** use

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY No evidence of carcinogenic potential emerged in rats during a two-year oral study with **Wytensin** at up to 9.5 mg/kg/day, i e , about 10 times maximum recommended human dose In the Salmonella microsome mutagenicity (Ames) test system, **Wytensin** at 200-500 mcg per plate or at 30-50 mcg/ml in suspension gave dose-related increases in number of mutants in one (TA 1537) of five *Salmonella typhimurium* strains with or without inclusion of rat liver microsomes. No mutagenic activity was seen at doses up to those which inhibit growth in the eukaryotic microorganism, *Schizosaccharomyces pombe*, or in Chinese hamster ovary cells at doses up to those lethal to the cells in culture In another eukaryotic system, *Saccharomyces cerevisiae*, **Wytensin** produced no activity in an assay measuring induction of repairable DNA damage Reproductive studies showed a decreased pregnancy rate in rats given high oral doses (9 6 mg/kg), suggesting impairment of fertility Fertility of treated males (9 6 mg/kg) may also have been affected, as suggested by decreased pregnancy rate of mates, even though females received drug only during last third of pregnancy

PREGNANCY: Pregnancy Category C: WYTENSIN® MAY HAVE ADVERSE EFFECTS ON FETUS WHEN ADMINISTERED TO PREGNANT WOMEN A teratology study in mice indicated possible increase in skeletal abnormalities when **Wytensin** is given orally at doses 3 to 6 times maximum recommended human dose of 1 0 mg/kg These abnormalities, principally costal and vertebral, were not noted in similar studies in rats and rabbits However, increased fetal loss has been observed after oral **Wytensin** given to pregnant rats (14 mg/kg) and rabbits (20 mg/kg) Reproductive studies in rats have shown slightly decreased live-birth indices, decreased fetal survival rate, and decreased pup body weight at oral doses of 6 4 and 9 6 mg/kg There are no adequate, well-controlled studies in pregnant women **Wytensin** should be used during pregnancy only if potential benefit justifies potential risk to fetus

NURSING MOTHERS. Because no information is available on **Wytensin** excretion in human milk, it should not be given to nursing mothers

PEDIATRIC USE Safety and effectiveness in children less than 12 years of age have not been demonstrated, use in this age group cannot be recommended

Adverse Reactions: Incidence of adverse effects was ascertained from controlled clinical studies in U.S. and is based on data from 859 patients on **Wytensin** for up to 3 years. There is some evidence that side effects are dose-related Following table shows incidence of adverse effects in at least 5% of patients in study comparing **Wytensin** to placebo, at starting dose of 8 mg b i d

Adverse Effect	Placebo (%) n = 102	**Wytensin** (%) n = 109
Dry mouth	7	28
Drowsiness or sedation	12	39
Dizziness	7	17
Weakness	7	10
Headache	6	5

In other controlled clinical trials at starting dose of 16 mg/day in 476 patients, incidence of dry mouth was slightly higher (38%) and dizziness was slightly lower (12%), but incidence of most frequent adverse effects was similar to placebo-controlled trial. Although these side effects were not serious, they led to discontinuation of treatment about 15% of the time In more recent studies using an initial dose of 8 mg/day in 274 patients, incidence of drowsiness or sedation was lower, about 20% Other adverse effects reported during clinical trials but not clearly distinguishable from placebo effects and occurring with frequency of 3% or less Cardiovascular—chest pain, edema, arrhythmias, palpitations. Gastrointestinal—nausea, epigastric pain, diarrhea, vomiting, constipation, abdominal discomfort Central nervous system—anxiety, ataxia, depression, sleep disturbances ENT disorders—nasal congestion. Eye disorders—blurring of vision. Musculoskeletal—aches in extremities, muscle aches Respiratory—dyspnea Dermatologic—rash, pruritus. Urogenital—urinary frequency, disturbances of sexual function. Other—gynecomastia, taste disorders

Drug Abuse and Dependence: No dependence or abuse has been reported.

Overdosage: Accidental ingestion caused hypotension, somnolence, lethargy, irritability, miosis, and bradycardia in two children aged one and three years Gastric lavage and pressor substances, fluids, and oral activated charcoal resulted in complete and uneventful recovery within 12 hours in both. Since experience with accidental overdosage is limited, suggested treatment is mainly supportive while drug is being eliminated and until patient is no longer symptomatic Vital signs and fluid balance should be carefully monitored Adequate airway should be maintained and, if indicated, assisted respiration instituted. No data are available on **Wytensin** dialyzability.

Dosage and Administration: Individualize dosage. A starting dose of 4 mg b.i d. is recommended, whether used alone or with a thiazide diuretic. Dosage may be increased in increments of 4 to 8 mg/day every one to two weeks, depending on response Maximum dose studied has been 32 mg b i.d., but doses this high are rarely needed.

How Supplied: (guanabenz acetate) Tablets, 4 mg, bottles of 100 and 500; 8 mg and 16 mg, bottles of 100 Revised 2/14/85

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Ad Council

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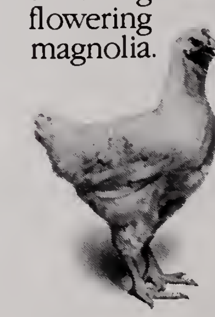
3. I'm on the grapefruit diet.
4. I gave six months ago.
5. I just got back from Monaco.
6. The lines are thirteen blocks long.
7. My mother won't let me.
8. I didn't sign up.
9. I'm going out of town.
10. Asthma runs in my family.
11. I forgot to eat this morning.
12. I'm allergic to flowering magnolia."



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BLOOD DOES.**

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Medical School News

St. Louis University

■ **Arthur E. Baue, M.D.**, professor of surgery and associate dean for clinical affairs, St. Louis University School of Medicine, has been named vice-president for the medical center at St. Louis University.

Dr. Baue was selected by **Rev. Thomas R. Fitzgerald, S.J.**, president of the University, from nominations made by a 12-member search committee consisting of trustees and members of the medical center facility.

Dr. Baue will replace **George Thoma, M.D.**, who held the post since 1973. Dr. Thoma will resume his position as professor of internal medicine and his secondary appointment as professor in the department of hospital and health care administration. Dr. Thoma is presently on a sabbatical in Europe.

Dr. Baue is the chief editor of the prestigious *Archives of Surgery* and is on the editorial boards of the *Journal of the American Medical Association* and the *American Journal of Physiology*. He has been a visiting professor and lecturer at numerous universities throughout the world and is the author of more than 430 medical articles and publications.

Prior to his coming to St.Louis University School of Medicine in 1985, Dr. Baue was the Donald Guthrie Professor and Chairman of Surgery at Yale University School of Medicine. He had held that position since 1975 as well as serving as chief of general and thoracic surgery at Yale-New Haven Hospital.

The native St. Louisan also was the Edison Professor of Surgery at Washington University School of Medicine from 1967 to 1975. During that same time he was director of surgery and surgeon-in-chief at The Jewish Hospital of St. Louis.

Dr. Baue is a graduate of Westminster College in Fulton, Mo., and the Harvard Medical School. He completed his residency at Massachusetts General Hospital and pursued postdoctoral studies at Harvard Medical School; Frenchay Hospital in Bristol, England; and the Oak Ridge Institute for Nuclear Study. He also served as a captain and assistant chief-of-surgery in the U.S. Air Force.

As vice-president, Dr. Baue will have administrative responsibility over The University Hospital; the University's schools of allied health professions, medical and nursing; Center for Health Services Education and Research; Center for Health Care Ethics; graduate program in orthodontics; Institute of Molecular Virology; and the Abbott Ambulance Service.

■ **William D. Richardson, M.D.**, assistant professor of medicine and psychiatry, St. Louis University School of Medicine, has been appointed medical director of the pain management unit at St. Louis University Medical Center. Dr. Richardson has also been named associate director of the Sleep Disorders Center and medical director of the Biobehavioral Treatment Center. These appointments are in the division of behavioral medicine in the School of Medicine's department of psychiatry.

As an internist with pulmonary medicine as a specialty, Dr. Richardson will not only serve a resource for primary care physicians seeking to treat patients suffering from chronic pain, but he will also contribute his knowledge of pulmonary disorders to help diagnose and treat certain sleep disorders. In his position with the pain management unit, Dr. Richardson will supervise the medical aspects of patients with chronic pain, which includes migraine headache, chronic tension headache, chronic lower back pain, and other types of chronic pain.

Dr. Richardson has held a position on the faculty of the school of medicine since 1974. Prior to his new position with behavioral medicine, he served as an attending physician at St. Louis City and County Hospitals. Dr. Richardson also served as associate director of the residency training program in internal medicine at St. Louis University Medical Center.

■ Two professors at St. Louis University School of Medicine have received a five-year, $306,815 grant for continued support of comprehensive hemophilia care. **John D. Bouhasin, M.D.**, clinical professor of pediatrics, and **J. Heinrich Joist, M.D., Ph.D.**, professor of medicine and pathology and director of the division of hematology/oncology at St. Louis University Medical Center received the grant from the Department of Health and Human Resources.

Drs. Bouhasin and Joist are co-directors of the Missouri/Illinois Regional Comprehensive Hemophilia Diagnostic and Care Center based at Cardinal Glennon Children's Hospital and St. Louis University Medical Center. The hemophilia center has been providing specialized services for the diagnosis and care of patients with hemophilia and other inherited bleeding disorders since 1962. It is one of the largest centers in the United States.

■ **Jan S. Ryerse, Ph.D.**, assistant professor of pathology at St. Louis University School of Medicine, has been awarded a two-year, $50,000 grant from Monsanto Company. The grant will be used to study intercellular communication and what the role of this dialogue might be in embryonic development.

Dr. Ryerse obtained his doctorate degree in 1978 from the University of Western Ontario and later completed his postdoctoral work at the University of California, Irvine. Dr. Ryerse came to St. Louis University in 1980.

The University of Missouri-Columbia

■ **Dr. Willis K. Paull**, professor and chairman of anatomy, has been awarded a continuation grant of $58,893 from the National Institute of Neurological and Communicative Disorders and Stroke for the third year in the study of "Corticotropin Releasing Factor Neuroendocrine Systems."

■ In July, **Gordan C. Sharp, M.D.**, professor of medicine and pathology, will receive a one-year renewal grant of $10,000 from the Research Committee of the Arthritis Foundation for the Arthritis Clinical Research Center.

■ **David Klachko, M.D.**, chief of clinical services for the Cosmopolitan International Diabetes Center, organized a conference on "Modern Management of Diabetes Mellitus." The conference was held in April at Lake Ozark.

■ **T. W. Burns, M.D.**, professor of medicine, has received gifts of nearly $10,000 for furnishing the new library of the Cosmopolitan International Diabetes Center.

■ **Dr. Virginia Huxley, Ph.D.**, assistant professor of physiology, gave a speech in March on "Single Capillary Permeability Properties" to the Department of Physiology at the University of South Carolina.

■ UMC's Child Psychiatry Department recently opened an Evaluation Center for Gifted and Academically Talented Children at University Hospital and Clinics. Children, between ages 3 and 12, who have been identified by parents or teachers as unusually intelligent, are evaluated to enhance their educational, social and emotional development.

■ **Richard Oliver, Ph.D.**, associate professor and director of the School of Health Related Professions, has been named president of the National Council of Lambda Tau, a medical technology honor society. As president, Oliver will coordinate publicity, recruitment and installation of new chapters.

■ **Dr. James O. Bullock, Ph.D.**, assistant professor of physiology, has received a two-year grant of $50,825 from the National Institute of General Medical Sciences for "Physiology on Ion Channel Formation by Type E1 Colicins." The main objective in this study is the elucidation of molecular processes which underlie the functional proteins that form channels in biological membranes.

■ **Robert G. Frank, Ph.D.**, assistant professor, department of physical medicine and rehabilitation, has been appointed interim chairman of the department. Upon the recommendation of the PM&R faculty, **Dean William Bradshaw** made the appointment which was effective immediately.

■ **Luis R. Visot, M.D.**, former departmental chair, recently resigned and has accepted a position at the Great Lakes Rehabilitation Center in Erie, Pennsylvania.

■ **Susan P. Buckelew, Ph.D.**, assistant professor, is the director of the biobehavioral Laboratory which recently began providing services to patients whose stress responses may aggravate their medical or psychological condition. Biofeedback, in conjunction with relaxation training and psychological counseling, can be used to learn new and more effective ways of controlling physiological and cognitive/effective responses to stress and pain. Treatment will be provided through the Department of Physical Medicine and Rehabilitation Clinic in collaboration with the referring physician and medical consultants at the UMC Hospital and Clinics.

University of Missouri-Kansas City

■ Noted Kansas City community leader **Adele Hall** presented UMKC School of Medicine's annual Carl Migliazzo Memorial Lecture, which traditionally is presented each year at noon on graduation day. A past chairman of the Central Governing Board of The Children's Mercy Hospital, Mrs. Hall has received many honors and awards for her philanthropic efforts. She currently is chairman of the United Way of America's executive committee, and an executive committee member of both Children's Mercy Hospital and of the United Negro College Fund. She is an advisory member of the Greater Kansas City Community Foundation.

■ **M. Therese Southgate, M.D.**, deputy editor of *The Journal of the American Medical Association*, presented some remarks at UMKC School of Medicine's commencement ceremony. Six years ago, Dr. Southgate welcomed the Class of 1986 as the keynote Year-1 convocation speaker. So strong was her interest in the School and its students that she requested an invitation to return to see the same class graduate.

■ The UMKC School of Medicine held its annual alumni reunion and scientific seminar on May 29. UMKC graduates gathered for an afternoon of presentation and discussion of research efforts, followed by a reception.

■ **Joseph C. Parker, Jr., M.D.**, is succeeding the retiring **Chandler J. Smith, M.D.**, as chairman of the department of pathology at Truman Medical Center and UMKC School of Medicine. Dr. Parker most recently has served as professor of pathology and medical biology for the University of Tennessee College of Medicine, Knoxville, and as director of both the Neuropathology Laboratory and the Cole Neuroscience Laboratory at the University of Tennessee Memorial Research Center and Hospital. He is a member of a number of professional organizations, including the American Association of Neuropathologists, the American Association of Pathologists, the Mayo Clinic Alumni Association, and the Federation of American Societies of Experimental Biology. Dr. Smith had chaired TMC's Department of Pathology since 1974.

■ The University of Missouri-Kansas City, on April 25 conferred an Honorary Doctorate of Humane Letters on **George Hatem, M.D.** The ceremony took place at commencement for UMKC's School of Dentistry. Dr. Hatem, who was born in the United States, in 1936 joined Mao Tse-tung's forces fighting for control of China. After the revolution, Dr. Hatem became a citizen of China and stayed on in that country to help eradicate leprosy and venereal disease. UMKC and its School of Medicine are involved in a number of cultural and academic exchanges with China.

■ The research results of senior medical student **Mark Groh** were presented at the American Gastroenterological Association's "Digestive Disease Week" May 17-23 in San Francisco. His abstract on "Hepatobiliary Scan, Ultrasound, and Pathologic Findings in Induced Canine Acute Acalculous Cholecysitis" was selected from more than 1,900 submissions.

■ UMKC School of Medicine on May 30 graduated 90 new physicians at its commencement ceremony at Kansas City's Music Hall. The commencement ceremony capped off a week of student graduation-week activities that included a senior banquet, a weekend float trip, and a Royals baseball game, courtesy of Marion Laboratories.

■ **Harry S. Jonas, M.D.**, Dean of UMKC School of Medicine, on May 7 was named 37th president of the American College of Obstetricians and Gynecologists (ACOG) at the group's Annual Clinical Meeting in Washington, D.C. In the past year as president-elect, Dean Jonas has been involved in many activities affecting the practice of obstetrics/gynecology. He has twice testified on issues before Congress: regarding professional liability insurance and on restrictive amendments for family planning.

In his presidential address, "A Time for Reason," he enunciated 10 goals for women's health-care issues to be reached by the year 2000. These include an emphasis on reducing adolescent pregnancy and reducing the need for abortion.

Washington University

- The department of pharmacology at Washington University School of Medicine, has received a $50,000 endowment from Sterling Drug Inc. to finance a Visiting Professorship in Pharmacology.

The grant is made in honor of **Ernst Zander, M.D.,** former U.S.A. medical director of Sterling Drug and vice president of medical affairs for Sterling's Lehn & Fink Products Co. Dr. Zander is a 1939 graduate of the Washington University School of Medicine. He joined Sterling that same year as associate medical director of Winthrop Chemical Co., a predecessor of Winthrop Laboratories. He retired from Sterling in 1985 after 46 years of service.

The endowment to establish the Sterling Drug Visiting Professorship in honor of Dr. Zander was presented to **Philip Needleman, Ph.D.,** Alumni Endowed Professor and head of the department of pharmacology at Washington University School of Medicine, on April 25.

- **Aubrey R. Morrison, M.B., B.S.,** associate professor of medicine and pharmacology at Washington University of Medicine in St. Louis, has been named a 1986 Clinical Pharmacology Scholar by The Burroughs Wellcome Fund.

The Burroughs Wellcome Fund is a private, non-profit foundation supported by Burroughs Wellcome Co., Pharmaceutical Firm. It was organized in 1955 to provide financial support for the advancement of research and education in the basic medical sciences.

The Clinical Pharmacology Award provides $250,000 over the next five years. Since the program began, 42 awards to 31 medical schools have been made at a total cost of approximately $6.6 million.

Dr. Morrison's research focuses on the pharmacological treatment of kidney and heart disease, in particular, the effects of prostaglandins on renal and cardiovascular function.

Dr. Morrison joined Washington University in 1973 as a clinical research fellow in nephrology. He subsequently served as an instructor in medicine and as a postdoctoral research fellow in pharmacology. He was named an assistant professor of medicine and pharmcology in 1978 and became an associate professor in 1983. Dr. Morrison is currently on staff at Barnes Hospital. He had previously served his internship and residences there.

- More than 200 physicians throughout the country returned to St. Louis May 1-3 to attend Reunion 1986, sponsored by the Washington University Medical Center Alumni Association.

A highlight of the reunion was the scientific program, which included presentations by faculty members of the Washington University School of Medicine. The program highlighted medical center research activities including the use of lithotripsy in eliminating kidney stones, the role of positron emission tomography (PET) in clinical nuclear medicine, current and future perspectives of magnetic resonance imaging, and Alzheimer's disease research. Washington University researchers also discussed new treatments and management of heart disease and breast cancer.

The reunion weekend also included a number of social activities, among them a welcoming cocktail party, a walking tour of downtown St. Louis, and dinners for each reunion class. The reunion concluded with a dinner/dance at the Mariott's Pavilion Hotel in St. Louis. Alumni Achievements Awards and Alumni Faculty Awards were presented in recognition of outstanding contributions to the field of medicine.

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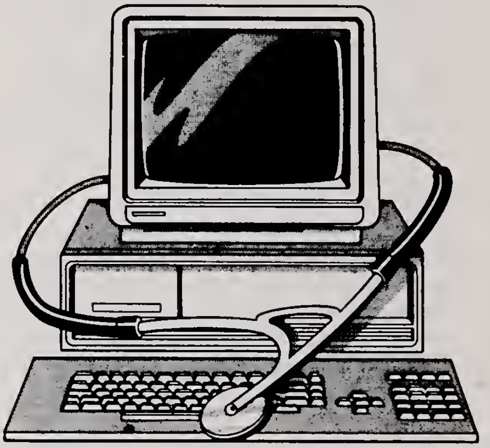

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This Date in Medical History JUNE

Compiled by Pasquale Accardo, M.D.
St. Louis

2

1881 Louis Pasteur demonstrates the first successful vaccination of sheep against anthrax.

4

1970 L-dopa is approved by the Food and Drug Administration.

7

1811 James Young Simpson, Scottish gynecologist who introduced chloroform anesthesia to obstetrics, was born. Opinions of him varied from "a vulgar male midwife" to the "Napoleon of Scottish surgery." He vigorously attacked Lister's antisepsis as worthless.

9

1783 Benjamin Brodie, English surgeon, pioneer in vein surgery with the first surgical treatment of varicose veins, was born. His conservative approach to the treatment of joint diseases reduced the number of amputations. He is remembered in a number of eponymous anatomical structures and pathological processes.

12

1667 Jean Baptiste Denis, professor of surgery at Paris and surgeon to King Louis XIV, performs the first successful blood transfusion from a lamb to a dying man.

1888 First account of the surgical removal of a spinal cord tumor. The patient was Captain Gilby, the doctors William Gowers and Victor Horsley.

13

1773 Thomas Young, English physician, physicist and Egyptologist, the Father of Physiological Optics, was born. He was known in Cambridge as "Phenomenon" Young. He described the phenomenon and cause of astigmatism, established the principle of interference of light, resurrected the wave theory of light and proposed with Helmholtz a theory of color vision. He devised one of the first mathematical rules to determine the dosage of medicine for children. Helmholtz called him "one of the most clear-sighted men who ever lived" and he said of himself, "When I was a boy, I thought myself a man; now I am a man, I find myself a boy." His promise as a child prodigy was fulfilled when as an adult Egyptologist he helped decipher the Rosetta Stone.

1870 Jules Jean Baptiste Vincent Bordet, Belgian bacteriologist and Nobel Prize winner in Medicine. He discovered complement fixation, gave the first description of bacterial hemolysis, identified the bacillus of whooping cough and a method of immunizing against it.

1797 Simon Tissot, Swiss physician, a leading European authority on the harmful effects of masturbation, died.

14

1868 Karl Landsteiner, Viennese pathologist, was born. His discovery of blood group antigens permitted safe transfusions. In distinguishing blood types he also uncovered the Rh factor. He was awarded the 1930 Nobel Prize.

15

1867 The first successful gallstone operation (cholecystotomy) is performed on Mary Wiggins in McCordsville, Indiana, by the Hoosier doctor John Stough Bobbs of Indianapolis. The "Father of Cholecystotomy" thought he was operating on an ovarian tumor.

17

1867 The first operation is performed under antiseptic conditions. Joseph Lister amputates the cancerous breast of Isabella Lister (his sister) using carbolic acid as an antiseptic.

1950 The first kidney transplant is performed by Dr. Richard Lawler at the Little Company of Mary Hospital in Chicago.

25

1915 The American College of Physicians is founded.

26

1844 John Conrad Otto died. He was an American physician who wrote, "An Account of an Hemorrhagic Disposition Existing in Certain Families," the first description of hemophilia.

27

1721 Dr. Zabdiel Boylston (1680-1766) inoculates his own son during the Boston smallpox epidemic.

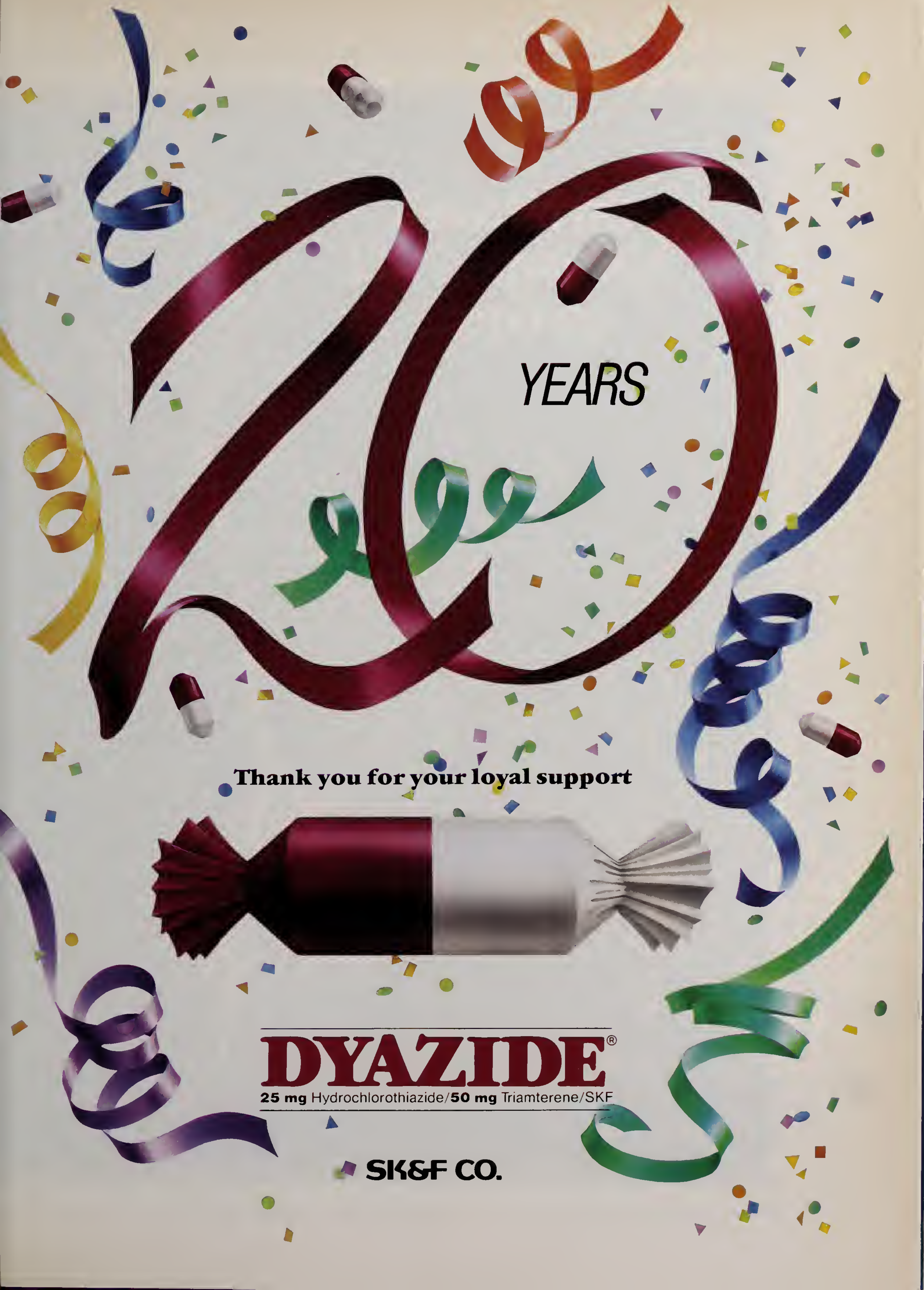
1831 Fridericus Wilhelmus Adamus Serturner (1783-1841), German pharmacologist, receives the Prix Montyon for his isolation of the alkaloid morphine from opium.

28

1873 Alexis Carrel was born. He was a French surgeon who pioneered in blood vessel anastomoses and organ transplantations for which he received the 1912 Nobel Prize. He believed that black gowns were a necessary part of his surgical technique. In his classic *Man, The Unknown* he wrote, "The more eminent the specialist, the more dangerous he is."

30

1961 Lee DeForest died. He was an American physicist who invented the vacuum tube. In 1907 he designed an electrical high frequency surgical scalpel.



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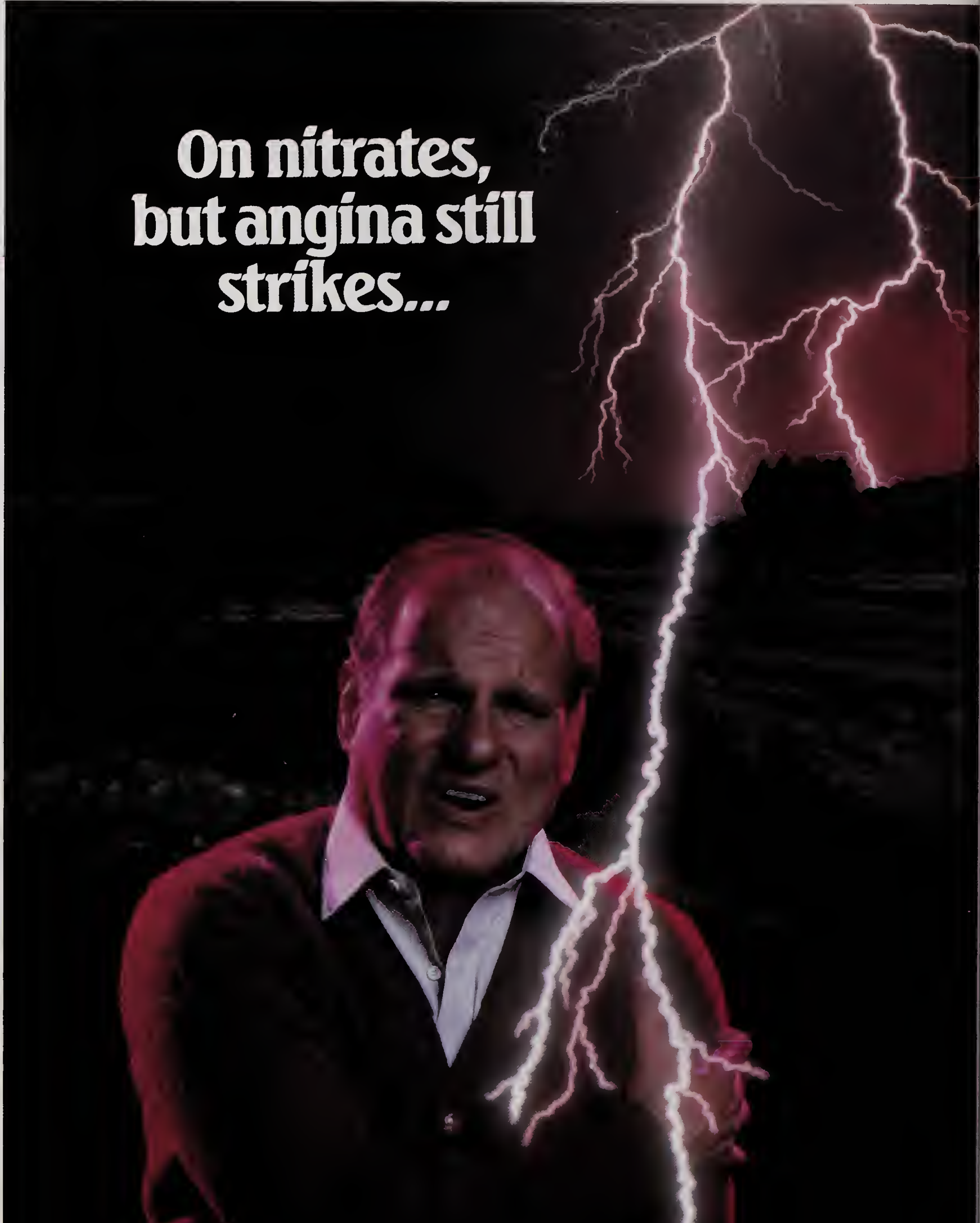
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Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. 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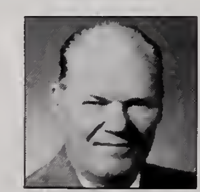

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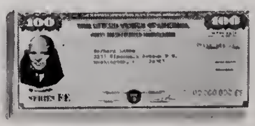

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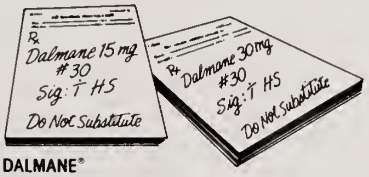

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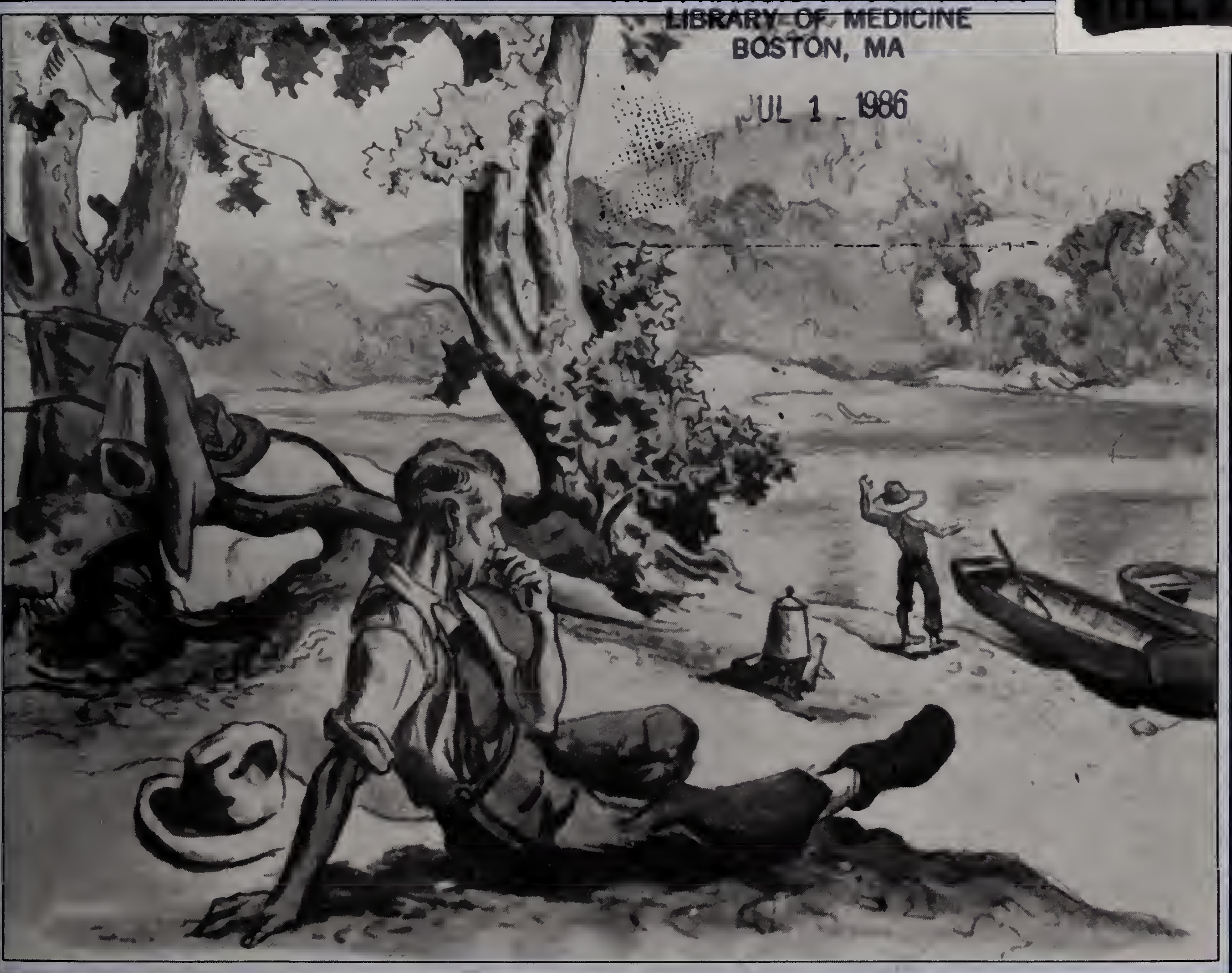

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Missouri Medicine

Vol. 83, No. 7 *Journal of the Missouri State Medical Association* July 1986

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Cover

"Coffee Pot," an ink and wash drawing on paper measuring 13 x 16, completed in 1939 by Missouri artist *Thomas Hart Benton.* The boy sketched in the background is Benton's son T.P. This was originally submitted to *Missouri Medicine* by Harry B. Cohen, M.D., an anesthesiologist in *Mexico, Missouri.* Dr. Cohen recently sold the drawing to Joseph Kelly, M.D., an anesthesiologist in *Liberty, Missouri.*

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May 30-31 Council Highlights

Here is a brief summary of the May 30-31 MSMA Council Meeting held at The Inn at the Lake of the Ozarks.

- Dr. Jordan Burkey's recommendation that all members of the current Editorial Board serve one more year was voted on and approved by the Council.
- There will be a summer meeting with the Trial Attorneys on July 2 at the Ramada Inn in Jefferson City.
- The Council voted on and approved having the 1988 Annual Meeting from March 17-20 at the Hyatt Regency in Kansas City.
- "The Essentials for Accreditation of Sponsors for Continuing Medical Education and Guidelines" were voted on and approved by the Council. Thus, these essentials are the criteria for CME sponsors.
- The Physician Involvement Program announced extremely poor attendance during the 1985-86 legislative session. Only 32 physicians, 8 students, and one society executive participated and this covered a mere 11 Wednesdays during the legislature. Obviously more participation is needed and a buddy system was suggested. Physicians planning to participate should contact a colleague to travel to Jefferson City with them for the PIP.
- Concerning the MedAssist legislation, Dr. Ekern reported that a proposed one-cent sales tax would provide health care for low-income Missourians. Last year, 650 million dollars in uncompensated health care occurred in Missouri as well as 250 million dollars in uncompensated physician care. The MedAssist legislation is being supported by the Missouri Hospital Association and Dr. Ekern moved to accept and support the MedAssist program. This was voted on and approved by the Council.
- Gayle Vilmer outlined her program as president of the MSMA Auxiliary with her theme as "the Key." She proposes amblyopia testing of school children, health fairs against drug and alcohol abuse, and a teen suicide seminar.
- The Council voted and approved to hire Eileen Duggan, M.D. as part-time director of the Physician Rehabilitation Program. The budget for the Physician Rehabilitation Committee was also voted on and approved. A Monitor Treatment Program similar to one established in Oregon is being explored. It would be self-supporting as participants pay $200 per month plus lab fees.
- Concerning PRO, it was reported that the new contract will not be "as pleasant" as the past 2-year contract. Dr. Mohammad Akhter, current director of the Missouri PRO, believes that if peer review can't be kept doctor to doctor, then he will not serve on PRO and it should not be supported in such a format. A motion was made to support Executive Director Akhter and the current Board of Directors as they apply for the next 2-year contract as the Missouri PRO. This was approved by the Council.

Much discussion followed concerning PRO. Dr. German suggested that PRO be the main issue of MSMA for 1986-87.

- Dr. Marvin Singleton reported that all Council members are now sustaining members of PAC.
- Dean William Bradshaw of the UMC School of Medicine announced that Dr. Michael Whitcomb will begin his duties as dean of the school on June 16. Bradshaw encouraged MSMA to give their support to Dr. Whitcomb and the UMC School of Medicine.
- A courtesy resolution to acknowledge the outstanding contribution to Missouri medicine and medical education by Dean Bradshaw was approved by the Council.
- The next MSMA Council meeting will be August 22-23 at the Holiday Inn of the Lake of the Ozarks. ■

George Bohigian, M.D.

Bohigian Re-Elected at AMA Meeting

At the annual American Medical Association meeting held June 15-18 in Chicago, George Bohigian, M.D. of St. Louis was re-elected to the Council of Scientific Affairs. This is his second term.

Other MSMA members running for AMA offices were Dr. Hugh E. Stephenson, Jr., M.D. of Columbia for Council on Medical Education and Hubert A. Ritter, M.D. of St. Louis for President-Elect.

The new President-Elect of the AMA is William A. Hotchkiss, M.D. of Chesapeake, VA. ■

MSMA Honors Legislators at Council Meeting

At the May 30 Council Meeting, five state Legislators were honored for their efforts on behalf of MSMA during the 1985-86 General Assembly. Sen. James Mathewson of Sedalia and Rep. Doug Harpool of Greene County were unable to attend the meeting at Lake of the Ozarks. Pictured at right from top to bottom are Sen. Robert Johnson of Jackson County, Rep. Marvin Proffer of Jackson, and Rep. Ray Hamlet of Audrain County receiving their appreciation plaques from Dr. Walter German. ■

State Sen. Robert Johnson of Jackson County receives a plaque of appreciation from Dr. Walter German on behalf of MSMA.

Rep. Marvin Proffer thanks Dr. Walter German for the appreciation plaque he received from MSMA.

Rep. Ray Hamlet of Audrain County accepts the MSMA plaque of appreciation from Dr. Walter German.

Duggan Named Director of Physician Rehabilitation Program

At the May 30 MSMA Council meeting, Eileen Duggan, M.D. of Kansas City was chosen as part-time director of the Physician Rehabilitation Program. Her responsibilities include administering the Missouri program; training intervenors; conducting seminars; assisting in case findings, investigation and intervention as well as managing the monitored treatment program.

A pediatrician who is an associate professor at the UMKC School of Medicine and a full-time staff member at the Children's Mercy Hospital, Dr. Duggan received her medical degree from the University of Kansas School of Medicine in 1970. She is a member of MSMA, AMA, the American Academy of Pediatrics, the American Society of Pediatric Nephrology and several other medical organizations. She may be reached through the Impaired Physician Hotline at 314/636-5744 or at Children's Mercy Hospital at 816/234-3000. ■

Scam of the Month

"The Police Report Scam"

Another new twist has been uncovered concerning how "Professional Patients" approach their physicians for additional medication.

Following a successful attempt of obtaining a prescription, the "Professional Patient" makes a return visit within a few days. He explains to his physician that shortly after his last visit, he was robbed (or burglarized) and his medication was taken. He produces evidence that the incident was reported to the police. Usually a police report is produced as he explains that he needs a replacement prescription.

Be aware that this is a very successful ploy for the "Professional Patient" can double the amount of drugs illegally secured by his original scam. Be alert of such occurances and change the replacement prescription to an alternative drug that is not so highly valued by the "Professional Patient." ■

Taking a break together at the June 4 Legislative workshop are Gayle Vilmer, MSMA Auxiliary president; Rep. Mary Kasten, R-Cape Girardeau; Susan Bryant and Ron Garrett, Executive Director of the St. Louis Metropolitan Medical Society.

Legislative Workshop Successful

More than 30 Auxilians, physicians, and MSMA staff members attended the day-long seminar "So You Want to Make a Difference in Elections — Here's How" held June 4 in Jefferson City. Susan Bryant, president of Research/Strategy/Management, Inc, conducted the program. Ms. Bryant established the Washington-based consulting firm and her clients have included the 1984 Reagan/Bush re-election campaign as well as that of Missouri Senator Jack Danforth.

Emphasis was placed on political campaigns, although Ms. Bryant stressed that her guidelines could be used for other causes. The four elements of any campaign are:

1. The stated goal.
2. The defined environment.
3. The strategy.
4. The tactics.

Many details must be researched and analyzed before delivering your message including backgrounds, attitudes, issues, financial resources, available support, possible support, etc. Above all, these questions should be answered as realistically as possible at the start of the campaign.

Having addressed a number of medical auxiliaries and associations throughout the country, Ms. Bryant emphasized that physicians and their families have more prestige and influence than any other group.

"These next three years of legislation will have a tremendous impact on the practice of medicine," stated Ms. Bryant. "I urge you to become active now instead of reacting when its too late."

All participants thought it was an outstanding and informative program. ■

Jonas Named President of ACOG

Harry S. Jonas, M.D., dean of the UMKC School of Medicine, has been named president of the American College of Obstetricians and Gynecologists.

As private practitioner in Independence, MO, from 1956-1975, Dr. Jonas delivered more than 7,000 babies. He decided to change the direction of his career and became a full time professor of obstetrics and gynecology at the UMKC School of Medicine. In addition, he was chairman of the OB/GYN department at Truman Medical Center, the University's teaching hospital, before becoming dean of the medical school in 1978.

For the past 25 years, Dr. Jonas has been an active member of ACOG. He has served as chairman of the College's Health Care Commission, chairman of the Missouri Section and the South Central District, and as a member of the national Committee on Professional Liability. Dr. Jonas is chairman of the Obstetrics Section of the Southern Medical Association, a board member of Truman Medical Center, past member of the Governor's Task Force on Rape Prevention, and past president of the Kansas City Gynecological Society.

Receiving his medical degree from Washington University in St. Louis, Dr. Jonas did his OB/GYN residency at Barnes-St. Louis Maternity and St. Luke's Hospital in St. Louis. ■

New Medicaid Claim Submission System

General American Consultec, the Fiscal Agent for Missouri's Medicaid program has announced development of ASAP, a micro computer claims entry system, to "accelerate submission and processing" of Medicaid claims.

Physicians participating in the ASAP program will enter claim data into their personal computer using the ASAP software provided free of charge by General American Consultec. Once entry and verification of data are completed, systems which include modems can transmit claims data directly to General American Consultec's data processing system. If direct transmission is not possible, diskettes containing the stored claims data can be mailed to General American Consultec for direct input into the processing system.

Utilization of the ASAP applications software requires an IBM compatible personal computer. It is recommended that systems include a compatible printer so that hard copy reports of claims data entered can be produced as needed. A Hayes compatible modem is required if direct transmission of data is planned.

The ASAP applications software (supplied on 5¼" diskettes), installation instructions, operating manuals and a dial-up transmission line will all be provided free of charge by General American Consultec. Transmission of data can normally occur around the clock. During their regular business hours of 8 a.m. to 5 p.m., General American Consultec will have technicians available to provide telephone assistance to users in your office.

Projected to be operational later this year, the implementation of the ASAP system will allow physicians to submit Medicaid claim data electronically via telephone transmission or mailed 5¼" diskettes in addition to the current submission methods of magnetic tape and paper forms. All Medicaid claims requiring attachments will continue to be restricted to the paper method of submission.

Physicians participating in the ASAP micro entry system are anticipated to experience a shorter reimbursement cycle for error-free claims submitted electronically than currently experienced on similar claims submitted on paper. Postage costs, clerical labor expense and office space should all be reduced as paperwork requirements are minimized. Use of the ASAP system versus the conventional paper system is projected to offer physicians a more efficient as well as convenient method of filing Medicaid claims.

If you would like more information on ASAP, please write:

General American Consultec
ASAP
P.O. Box 5800
Jefferson City, Missouri 65102

If you have questions regarding participation requirements, please contact:

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Division of Medical Services
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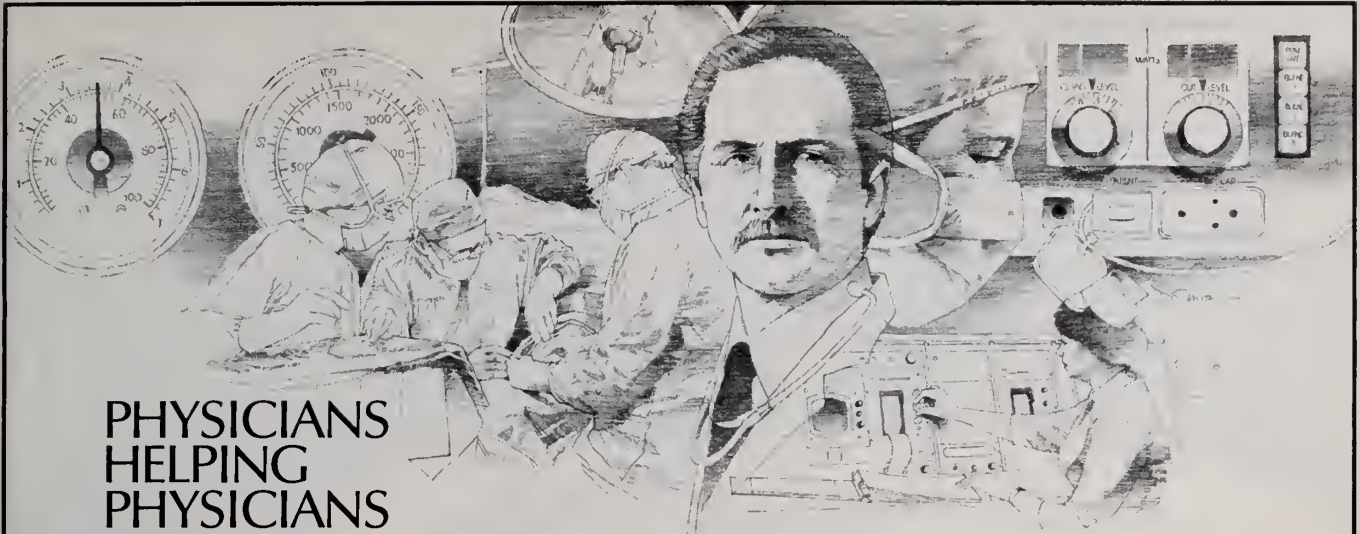
Convention Candids

Chris Fotopoulos, M.D., of the Lake of the Ozarks invites the House of Delegates to the 1987 meeting at Tan-Tar-A.

KMOX's Dr. Armand Brodeur took his AT YOUR SERVICE program to the Marriott Pavilion and broadcast live from the MSMA Annual Meeting for two hours. Pictured from left to right are members of the panel who fielded questions concerning medical malpractice: Richard Grisham, president, St. Anthony's Medical Center in St. Louis; Dr. Armand Brodeur, M.D., AT YOUR SERVICE host and chairman, Department of Radiology, Cardinal Glennon Children's Hospital in St. Louis; Gerald Montroy, licensed attorney in Missouri and Illinois; and Dr. John T. Anstey member of the St. Louis Metropolitan Medical Society.

Dr. and Mrs. William Bradshaw enjoy a light moment at one of the evening festivities.

Richard V. Bradley, M.D., a general surgeon from St. Louis, addresses the House of Delegates while Drs. Frederick Peterson and Meredith Payne reflect on his topic.



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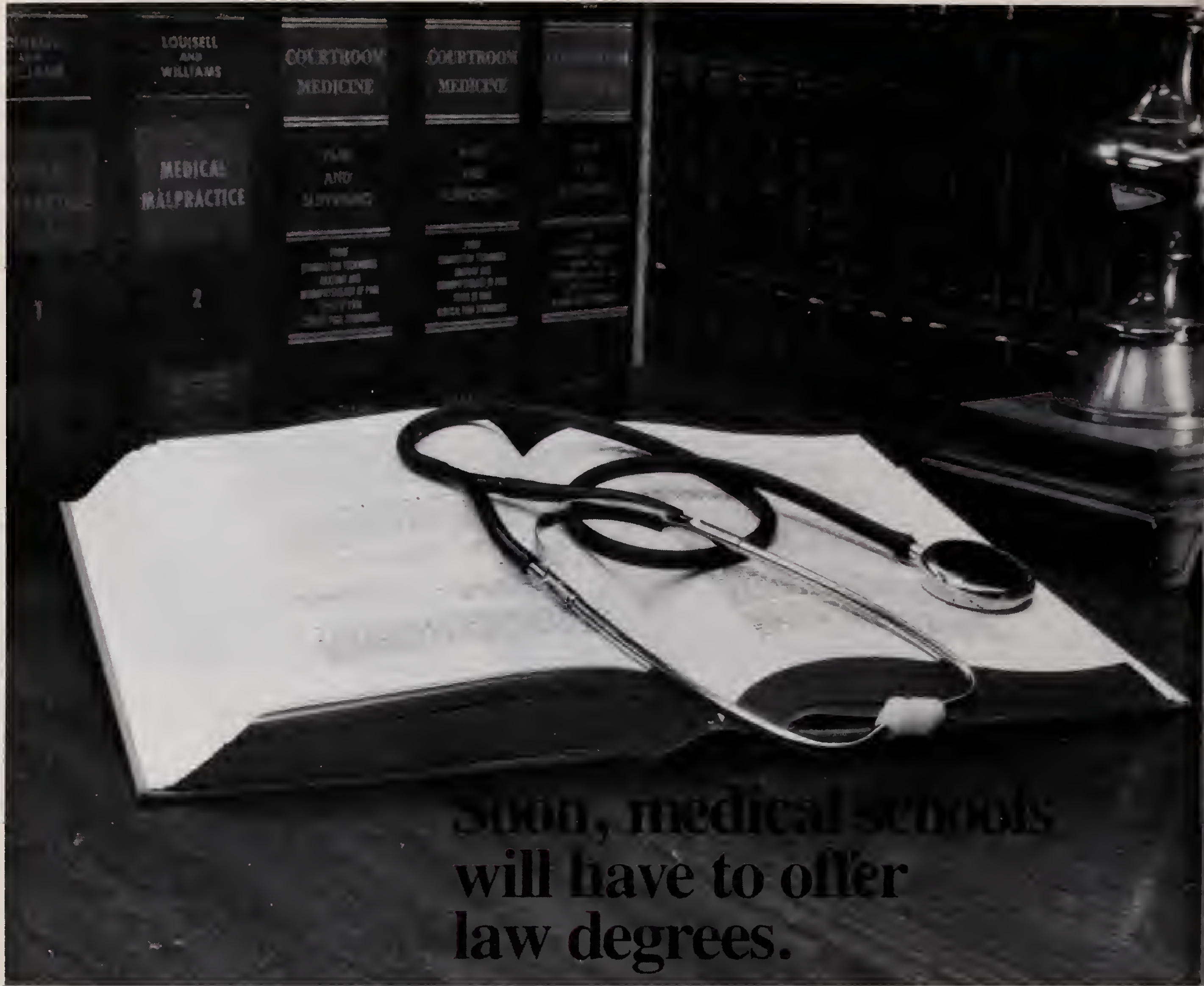
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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

The decline of utilization of health care services may be offset by a closer working relationship between hospital and physician staff.

Rural Hospital and Physician Relationships

One of my privileges as president is to attend the joint meeting of the executive committees of Missouri Hospital Association, Missouri Association of Osteopathic Physicians and Surgeons, and Missouri State Medical Association. This is an excellent forum to discuss and share mutual problems, solutions and ideas to improve health care for Missourians.

At the meeting May 3, 1986, agenda items included medical malpractice insurance and joint underwriters association; indigent health care; health care coalition activity; licensure; and rural hospital and physician relationships.

In particular I would like to discuss rural hospital and physicians relationships. More than 50% of Missouri hospitals are non-urban. There are many factors stressing the hospital — physician relationships. Among these are the federal reimbursement system and review process; i.e., DRG and PRO. Smaller hospitals now with even smaller census face severe financial loss and may even be closed if admissions are denied. Peer education concerning appropriate documentation of records and reimbursement constraints would be most helpful to hospital physicians staffs.

The decline of utilization of health care services may be offset by a closer working relationship between hospital and physician staff. Some creative joint-venturing and diversification may be a solution to this current stressful problem.

The third problem is the predicted managed care by 1995 of 95% of health care delivery, if you believe Paul Ellwood of Minneapolis. It is here the proposed state-wide, physicians owned and controlled, IPA-HMO, may be beneficial to both hospitals and physicians. This was approved by the House of Delegates in April for an intensive study and implementation.

The growing problem of indigent health care reached a quarter of a billion dollars in 1984. A long-term solution to this societal problem is being sought by the MedAssist Bill. The Missouri Legislature would create a quasi-government medical trust fund to provide coverage for low income employed, those with pre-existing conditions, as well as the unemployed and uninsured. A one cent sales tax would fund this underwriting, if approved by Missouri voters. These dollars would help rural health care.

The tremendous increase in liability insurance costs both to hospitals and physicians have potential to reduce access to care and to cripple some rural hospitals. A cooperative system of physician placement to good career opportunities in rural Missouri would ease this problem. Today's primary care and specialty physicians do not want to live in an area without a hospital. Missouri communities need their hospitals and physicians.

A recent study of small maternity services, under 500 deliveries per year, handled

Continued on page 404

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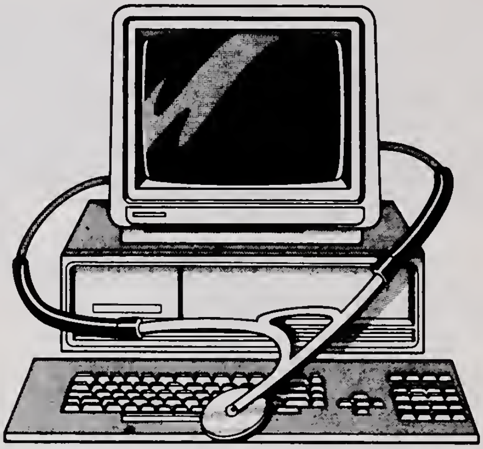

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Voice Your Opinion on HB 1596

Dear Dr. Burkey:

House Bill 1596 is this year's anti-abortion legislation. Having passed both Houses of the Legislature with wide margins of approval, it now awaits the Governor's signature to become law in the state of Missouri.

Regardless of one's personal beliefs regarding abortion, all physicians should be acutely concerned by the restrictions this bill places on their freedoms of speech and practice of medicine. Also, all physicians should realize that whether or not they are direct public employees, this bill will affect them and their patients.

It legislates that any person who is salaried by public funds of any kind may not perform or assist in abortions and may not counsel a woman to have an abortion unless it is necessary to save her life. Public funds and public facilities may not be used for these purposes either.

The implications of this section of the bill are of tremendous importance regarding the physician-patient relationship. The bill defines an area which physicians *may not discuss* with their patients. Even if the pregnancy results from rape or incest, or in cases where the fetal condition is incompatible with life, it is prohibited for physicians to fully discuss all options with their patients. This puts the doctor in a professionally unethical and *legally* liable position.

This bill will have its greatest effect on indigent women, since they are most likely to utilize publically funded institutions, which are prohibited by this bill from offering abortions or counseling. Also, **HB 1596** is in direct conflict with the guidelines of the *Title X National Family Planning Program*, which provides family planning services to 38,000 indigent women in our state. This could endanger Missouri's Title X allocation. Finally, the language of **HB 1596** is in conflict with the *Hyde Amendment*, which permits use of Medicaid funds for all medically necessary abortions. These are defined as abortions performed:

> (a) when medical or psychiatric conditions associated with the pregnancy constitute a threat to the mother's life or
>
> (b) when the fetus has a lethal condition. (Medicaid also reimburses for abortions of pregnancy resulting from rape or incest.)

HB 1596 puts these funds for Missouri citizens into question.

The lawmakers of Missouri have broken new ground with this bill. Never before have physicians been restricted in what they may discuss with their patients; never before have the lawmakers taken upon themselves the awesome responsibility of legislating that a recognized medical procedure will be outlawed.

Whose responsibility is it to define what physicians and *any* of their patients may or may not discuss? Whose judgement should it be that a patient may or may not have a procedure done at a hospital, which after all was built to serve the public, not to restrict it. These very fundamental rights belong to physicians and patients; they can not be seized by legislators and governors. Or so we thought, before the passage of **HB 1596.**

The free practice of medicine is being assaulted from many sides today. Barraged by threats of malpractice suits, struggling to keep pace with soaring liability insurance rates, mistrusted by the public and by patients, encroached upon by restrictions on choices of how, where, and when to practice medicine, physicians strain to remember the answer to the question "*why* practice medicine?" The times are hard but we must fulfill our responsibilities as physicians. We are entrusted with a body of knowledge and a standard of care which are in fact precious. They are not perfect, nor is our system of health care delivery perfect. Changes need to be made. But it is our responsibility to safeguard the medical body of knowledge and to foster its expansion and its fair accessibility to all people. We need to be in the forefront making progress in advancing toward these goals. We must not abrogate these responsibilities to legislators and special interest groups. Most importantly, we must not let those succeed who seek to wrest away the freedoms of medical practice in a free society.

I request that you bring **HB 1596** to the attention of your readership. As mentioned, it sits on the Governor's desk awaiting his signature. If he does sign this piece of legislation, it's constitutionality will be challenged in the courts, but it cannot be

Continued on page 387

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

It seems proper that we all "watch our diets," but perhaps only out of the corner of one eye.

Food for Thought

Physicians, like the clergy, are supposed to practice what they preach and set good examples if nothing else. Human beings are, however, just human, and we all have our deficiencies in character. There are preachers who don't exactly follow the Ten Commandments; there are physicians who do not follow the medical "commandments" learned through medical training. Doctors still smoke, overeat, or fail to have even occasional physical examinations themselves.

If it's confession time, then I admit a personal medical shortcoming — swallowing dieticians' comments on proper eating habits. What we eat, how much we eat, when and how often we should eat it, how fast we should chew it — all are subject to nutritionists' dicta. Mealtime would seem to be a proper occasion for relaxation away from medical cares and considerations. Instead it is an experience shared with calorie counters, tables of essential amino acids, and, finally, guilt feelings that once again the diet probably tilted towards too much fat.

Most prejudices, dietary or otherwise, begin at an early age. I remember a nurse visiting my first grade classroom and telling us to drink six glasses of warm water a day. I also recall being on the receiving end of a pediatric dietary fad of the time — "Bulgarian buttermilk." Supposedly this turned sickly children into healthy ones, but only slowly as the sour, thick concoction was gagged down daily.

Today's children encounter other fads. Dr. Lendon Smith's dietary commandments a few years ago undoubtedly affected many households. Sugar was blamed for preventing a child from becoming anything short of a genius. The "you are what you eat" philosophy transformed kitchens into dietary strategic battle stations. There is no doubt that poor early-age nutrition leads to poor physical and mental development. However, it seems that reasonable efforts at providing a varied food intake for the growing child should result in an adequately developed offspring.

As the youngster grows a little older, the practical problems begin. You tell a child how wonderful green and yellow vegetables are until you are blue in the face, but his nose and tongue may disagree. ("Be aware of any food your mother says is good for you.") The teenage years arrive and he choses what he eats. Social pressures and taste preferences take over, and all those careful years of parental dietary guidance may be left behind. Soft drinks are fun drinks; milk may be best forgotten. Pizza scores ahead of green leafy vegetables and well above that hospital dietary specialty, carrot and raisin salad.

The human body usually makes do with all the various foodstuffs given it, however, without any gross deleterious effects. It seems proper that we all "watch our diets", but perhaps only out of the corner of one eye. Moderation and good sense should suffice. Let us give thanks for the food on our tables, and enjoy it. Admittedly, we still have trouble forcing down buttermilk, let alone six glasses of warm water a day. ■

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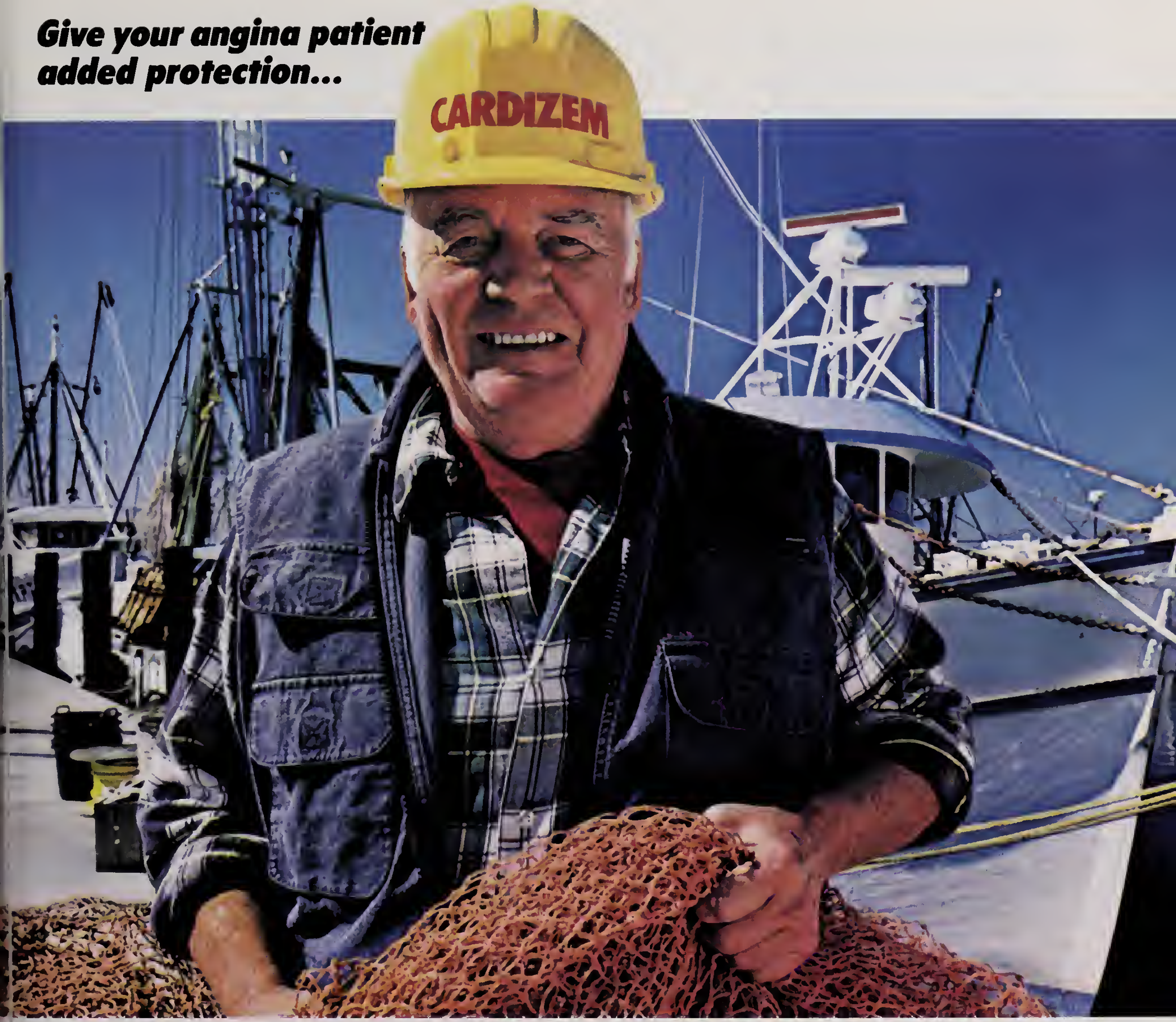

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FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

BRIEF SUMMARY

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System.	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia

The following additional experiences have been noted.

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg. dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84

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References: 1. *Physicians' Desk Reference®*, ed 39. Oradell, NJ, Medical Economics Company Inc, 1985. **2.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): *Heart Disease: A Textbook of Cardiovascular Medicine*, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **3.** Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. *Mod Med* 1982; 50(Sept):94-116. **4.** Subramanian VB: Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina. *Cardiovasc Rev Rep* 1984; 5:91-104. **5.** Schroeder JS, Feldman RL, Giles TD, et al: Multiclinic controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 1982; 72:227-231. **6.** Weiner DA, McCabe CH, Cutler SS, et al: The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7:648-653. **7.** Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. *Consultant* 1984; 24(Dec):150-159

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Heatstroke

A Review of Clinical Manifestations and Management

James F. Stanford, M.D.
Kansas City, Missouri

Heatstroke, a medical emergency on the extreme end of the spectrum of heat-related illness, has been recognized since biblical times. Even when recognized early and aggressively managed, heatstroke has significant associated morbidity and mortality. Emphasis on prevention of this largely preventable condition is therefore of paramount importance.

While exertion-related heat illness and "non-seasonal" heatstroke[1] may occur during relatively "mild" summers ("non-heat wave years") and throughout the year, respectively, classical heatstroke frequently occurs during prolonged heat waves such as the heat waves of 1952-1955, 1966, and 1980.[2] The past five years have been "non-heat wave years" for much of the Midwest, so the dangerous potential for waning clinical proficiency in diagnosing heatstroke and managing these critically ill patients exists. This may be especially true in small community hospitals which do not have full-time emergency room physicians. This brief review will heighten the practitioner's awareness of the clinical manifestations and emergency management of classical heatstroke. The reader interested in a more indepth and exhaustive review of heat illness is referred to the classic review by Knochel[3] and other excellent reviews.[4-7]

Although classical heatstroke is focused upon here, where relevant, comparisons with exertional heatstroke will be made.

Heatstroke

Heatstroke is a medical emergency which, even when recognized early and aggressively treated, has a significant morbidity and mortality.[3, 4, 8-11] Exertional heatstroke occurs in young healthy athletes, military recruits, and laborers.[12-16] Classical heatstroke is prominent in the sedentary elderly, who are subject to known predisposing factors, and is often heat wave related.[3, 4, 5, 8, 9, 10, 17, 18] Non-seasonal heatstroke is often drug-related and occurs without exposure to an elevated ambient temperature.[1] Heatstroke is clinically characterized by the classical triad of hyperpyrexia (> 40.6°C), severe CNS disturbance such as delirium, psychosis, agitation, lethargy, stupor or coma, and anhidrosis. The third finding in this triad, anhidrosis, may be absent, especially early in the course of exertional heatstroke.[4, 10]

Any disease, condition, or drug that alters or interferes with the normal physiologic response to heat stress can be a predisposing factor to heatstroke. (Table 1) Excess heat is dissipated by radiation and con-

Table 1

Predisposing Factors of Heatstroke*[1, 4, 5, 18, 19, 20]

- **I. Exogenous Heat Gain**
  - A. High Ambient Temperature
    - 1. Extremes of Age
    - 2. Debilitating Illnesses
    - 3. Alcohol (peripheral vasodilation)
- **II. Increased Heat Production**
  - A. Exercise and Exertion
  - B. Improper Training Techniques
  - C. Fever and Acute Infection
  - D. Agitated and Tremulous States
    - 1. Parkinson's Disease
    - 2. Acute Psychosis/Mania
    - 3. Drug Withdrawal: Alcohol, Barbiturates, Meprobamate
  - E. Drug Overdose
    - 1. Amphetamines
    - 2. Hallucinogens (LSD)
    - 3. Phencyclidine (PCP)
    - 4. Severe Salicylate Overdose
  - F. Hyperthyroidism and Thyroid Medication
- **III. Impaired Heat Dissipation**
  - A. Lack of Acclimatization
  - B. Salt and Water Depletion
  - C. High Ambient Temperature
  - D. High Humidity
  - E. Moderate to Severe Obesity
  - F. Heavy Clothing
  - G. Cardiovascular Disease
  - H. Neurological Disease (Autonomic Dysfunction, Dementia, CVA, Parkinsonism)
  - I. Drugs
    - 1. Diuretics
    - 2. Anticholinergics
    - 3. Neuroleptics (Phenothiazines, Butyrophenones)
    - 4. Antidepressants
    - 5. Antihistamines
    - 6. Anti-Parkinsonian Agents
    - 7. Beta-Blockers, Alpha-Methyldopa
    - 8. Monoamine Oxidase Inhibitors
  - J. Sweat Gland Dysfunction
    - 1. Cystic Fibrosis
    - 2. Scleroderma
    - 3. Ectodermal Dysplasia
    - 4. Extensive Post-Burn Scarring
    - 5. Maliaria
    - 6. Sweat Gland Necrosis 2° to Barbiturate Overdose or Previous Heatstroke
  - K. Potassium Depletion
- **IV. Multifactorial Predisposition**
  - 1. Diabetes Mellitus
  - 2. Malnutrition
  - 3. Impoverished Elderly in Substandard Housing

*Adapted with permission from Stine, RJ[5]

duction via a hypothalamic-mediated cutaneous vasodilation and increased cardiac output.[3, 4] Evaporation heat loss requires an intact sweating mechanism as well as hypothalamic input.[3, 4] When the ambient air temperature becomes greater than or equal to 95°F (35°C) neither conduction nor radiation are effective.[6, 9] High humidity limits heat loss by vaporization.[4, 6]

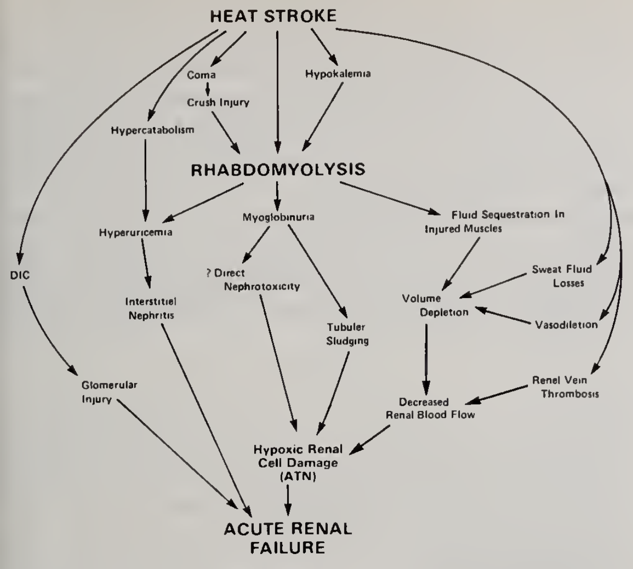
Clinical Aspects of Heatstroke

In heatstroke, normal homeostatic mechanisms fail to prevent extreme hyperthermia. This causes widespread cellular damage and, clinically, a multisystem derangement.[3] Several studies of classical heatstroke patients help to characterize this disorder.[8, 9, 10, 21] Heatstroke must be differentiated from the less serious heat-related illnesses, heat cramps and heat exhaustion, the clinical manifestations of which have been well described, elsewhere.[4, 22] A subtype of heat exhaustion, "water depletion heat exhaustion" deserves mention here, as it is often heat wave-related, and may be the forerunner of heatstroke.[4] Complaints of intense thirst, headache, anxiety, weakness, fatigue, and incoordination as well as findings of fever (less than 40°C), oliguria, hypernatremia, extracellular volume depletion, and mental status alteration are seen on presentation. Appropriate treatment is admission to the hospital for observation and rehydration.[3, 4]

Patients with classical heatstroke often present with a sudden loss of consciousness, but may also present with nonspecific prodromal complaints (eg., anorexia, nausea, vomiting, headache, dizziness, weakness, faintness, muscle cramps, feeling of "impending doom") which precede CNS findings by hours to days.[6, 8, 10]

In addition to the classical triad mentioned above, tachycardia and tachypnea are very common at presentation.[4, 8] Hypotension is seen in more severe cases.[8, 9] Hemodynamically, a hyperdynamic (high output failure) state is commonly seen, although a hypodynamic or hypovolemic state may also be encountered.[4, 5, 8, 15, 23] Nonspecific electrocardiographic abnormalities such as supraventricular tachycardia, ventricular premature contractions, nonspecific ST-T wave changes and QT interval prologation are often seen. Myocardial infarction, while occurring mostly in patients with underlying coronary artery disease, may rarely also occur in heatstroke patients with normal coronary arteries.[4, 5] A wide gamut of neurological findings including pupillary abnormalities, cerebellar dysfunction, pathological reflexes, and motor abnormalities such as hemiplegia, flaccidity, or decorticate posturing may be present.[4, 24] Coma should reverse rapidly with the return of the core temperature to normal. Heat-induced hyperventilation results in respiratory alkalosis early in the course of heatstroke. Metabolic (lactic) acidosis, the result of increased metabolic demands, hypotension, and tissue anoxia, often supervenes. Temperature correction of arterial blood gases is somewhat controversial but is felt by most to be essential for proper interpretation. For each 1°C above 37°C, the "corrected" value can be calculated by adding 7.2% and 4.4% of the measured value to

Figure 1.



the measured value for PO_2 and PCO_2, respectively, and subtracting 0.15 pH units from the measured pH.[25]

Other clinically important findings in heatstroke are rhabdomyolysis, disseminated intravascular coagulation, and acute renal failure. All are more commonly seen in exertional heatstroke, but certainly are also seen with classical heatstroke.[4, 8, 10] Although myoglobinuria and volume depletion are the main etiologic factors in the acute renal failure of heatstroke, interstitial nephritis secondary to hyperuricemia, direct thermal injury, DIC-associated glomerular injury, and renal vein thrombosis all may be contributing factors[4] (see Figure 1). Patients with nonseasonal heatstroke due to drug-induced hyperactivity and agitated delirium (eg. LSD, phencyclidine, cocaine, amphetamines, delirium tremens, drug withdrawal states) are also prone to develop myoglobinuric acute renal failure.[1, 4, 5]

Petechiae and ecchymoses are both common. Severe electrolyte and metabolic imbalance including hyponatremia, hypokalemia, hypocalcemia, hypophosphatemia, hypomagnesmia and hyperkalemia (exertional heatstroke) may cause and/or aggravate myocardial dysfunction, cardiac arrhythmias, and neurological abnormalities.[8] Although electrolyte imbalance and hyperglycemia are very common in classical heatstroke, they are of no prognostic significance.[8, 10]

It is most important to differentiate heatstroke from several infectious diseases which may present with fever in the "heatstroke range." These include meningitis, septicemia (especially meningococcemia), rickettsial infection (typhus, RMSF) and falciparum malaria. Also in the differential diagnosis are the neuroleptic malignant syndrome, malignant hyperpyrexia, delirium tremens, post-insulinoma resection, pheochromocytoma storm, thyroid storm, midbrain hemorrhage, and hypothalamic lesions.[3]

Treatment

Managing heatstroke patients requires the basic principles of emergency care and a coordinated team approach. Many measures may need to be instituted almost simultaneously such as the assurance of an adequate protected airway, the placement of intravenous lines and basic monitoring devices (rectal thermistor, foley catheter, cardiac monitor) and the provision of adequate oxygenation. Immediate cooling is the most important aspect of heatstroke treatment. Delay in cooling no doubt worsens the prognosis so begin cooling in the field. Emergency medical technicians or bystanders should remove clothing and apply moist, iced towels over the large arteries of the patient's groin and axilla. Fans used after wetting the patient are also effective. Once in the emergency room, use one of the following acceptable methods of cooling: immersion into an ice-water bath with simultaneous skin massage; wet, ice bag massage and large fans; or use a body cooling unit (BCU).[4-7, 26] It is imperative to augment cutaneous circulation by massaging the skin, otherwise cutaneous vasoconstriction may limit heat dissipation. Wear rubber gloves and frequently alter personnel to accomplish continuous massage. Patients should be cooled until their core temperature falls to approximately 38.°C (102°F). Monitor rectal temperature for at least 24 hours thereafter to detect the reoccurence of hyperthermia or rebound hypothermia.[4] Phenothiazines to prevent shivering are no longer recommended because of their potential to worsen hypotension, impair heat dissipation, lower the seizure threshold, and cloud an already clouded sensorium.[4, 8, 10]

Hypotension often responds to cooling by the reversal of heat-induced vasodilation.[3, 4] Moderate amounts of fluids are, however, sometimes needed for hypotension, and occasionally vasopressors are required. Normal saline is the fluid of choice initially with average fluid requirements being 1,200-1,400 mL within the first four hours.[27] Dopamine is the preferred vasopressor agent. Alpha-adrenergic vasoconstrictors are contraindicated as they limit heat dissipation.[4] Hemodynamic monitoring should be instituted in patients exhibiting hypotension that does not respond quickly to cooling and moderate amounts of fluid. Severe metabolic acidosis ($pH \leq 7.15$) should be treated with sodium bicarbonate intravenously and electrolyte disturbances corrected and appropriately monitored. If bicarbonate must be given for severe acidosis, watch closely for signs of hypocalcemia.[4] Hypocalcemia should be treated only if tetany or seizures occur. It is not uncommon for hypercalcemia to develop during the recovery phase of myoglobinuric acute renal failure.[4] Mannitol 12.5 to 25 grams intravenously may be added to the initial intravenous fluids along with maintenance of sufficient urine output to prevent myoglobinuric acute renal failure.[3-6, 13, 15, 27] Digitalis preparations should be avoided in patients

Table 2

Factors Associated with Poor Prognosis in Heatstroke

1. Extreme hyperthermia (≥ 108°F[8], > 106°F[9])
2. Severe hypotension/pressor dependency[8, 9, 10]
3. Coma (especially > 2 hours)[8, 9]
4. Delay in cooling[3, 7]
5. Need for mechanical ventilatory assistance[8]
6. Coagulopathy (disseminated intravascular coagulation)[8]
7. Elevated serum lactate (> 4 mmol/L, prior to cooling) (classical only)[4, 10]
8. SGOT > 1000 during first 24 hours (exertional)[28]

who are hypokalemic and alkalotic. Noncardiogenic pulmonary edema (ARDS) may develop secondary to aspiration, direct thermal injury, and/or disseminated intravascular coagulation, and will require careful ventilator and fluid management.

Controversy exists regarding the need for treatment of the hemorrhagic diathesis.[5] Replacement of clotting factors with fresh frozen plasma for clinically important DIC and platelet transfusions for severe thrombocytopenia with bleeding may be helpful,[5] however, clinically important DIC has rarely been seen in recent series of classical heatstroke.[8, 10]

Prognosis

Although the mortality in heatstroke studies has ranged from 0-76%[5,] two recent classical heatstroke studies[8, 10] found a mortality of 14-18%. This has not changed significantly from the 17% mortality found by Austin and Berry in the early 1950's.[9] Factors which have been found to be significantly associated with a poor outcome (death or severe residual neurologic deficit) are listed in Table 2.[3, 4, 8, 9, 10, 28] Severe circulatory collapse with resultant tissue anoxia is a common factor linking many of these risk factors. The duration of hyperthermia may be the most important prognostic factor.[3, 5]

Prevention of Heatstroke

Significant morbidity and mortality occurs even with aggressive management,[8, 10] so prevention is vitally important. In the heat wave of 1980, there were 245 deaths from heat-related illness in St. Louis and Kansas City, Missouri, alone.[11, 18] Data analysis from these heat-related deaths adds to the profile of patients at risk for classical heatstroke.[11, 18] High-risk patients include the elderly; the socially-neglected, inner-city poor, and patients on atropine-like drugs. Most of these groups lack air conditioning or effective means of cooling, and are not able to care for themselves.[11, 18] These patients need to be identified during times of heat stress and either be provided with air conditioning or directed to centers where such cooling is available.[4, 11, 18] Encourage patients to decrease activity and consume more liquids during these times. Predisposing medication should be discontinued whenever possible.[4, 11, 18] Patient education, utilizing the media, and home visits may save lives. Physicians should be alert to the prodrome of heat-related illness during heat waves and admit elderly patients with "water depletion heat exhaustion" to the hospital for observation and treatment.[4] Coaches, athletes and military personnel must be educated regarding gradual, graded training and acclimatization and taught to recognize early warning signs of heat exhaustion and heatstroke.[4, 12, 14, 29]

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Update

New PRO Scope of Work Signals Emphasis on Quality

Mohammad N. Akhter, M.D., M.P.H.
Dan Jaco, M.S.P.H.

Jefferson City, Missouri

Physicians and hospitals will encounter significant changes relating to the review of Medicare cases beginning August 1, 1986. This article examines those key changes and their expected impact on the Missouri medical community.

The Missouri Patient Care Review Foundation, the state's Utilization and Quality Control Peer Review Organization (PRO), has submitted its proposal for the next two-year contract with the Health Care Financing Administration (HCFA) to carry out its responsibilities as the PRO for the state of Missouri.

During the past eighteen months, the Foundation has raised concerns about the PRO program in two areas: (1) HCFA is primarily concerned with the reducing Medicare costs instead of assuring quality of care; and (2) that all providers and practitioners — good, mediocre, or bad performers — be subjected to across-the-board review rather than focusing more efficiently on identified problem areas. Based on the scope of work contained in HCFA's request for proposal (RFP), it appears the agency has taken these issues to heart. The objectives required under the new scope of work reflect a significant departure from the current PRO program: more focused review on identified problem areas, greater emphasis on quality, with application of generic quality screens to all cases reviewed for any reason. As a result, the percentage of cases to be reviewed is expected to decline while the intensity of review will increase. The scope of work calls for five objectives in two major areas — quality and utilization.

Dr. Akhter is executive vice president and medical director, and Mr. Jaco is assistant director of operations of the Missouri Patient Care Review Foundation.

Quality Objectives

Under the quality objectives, the PRO is to eliminate adverse outcomes by focusing on providers and/or practitioners through use of generic quality screens, by focusing on HCFA-provided discharge and mortality outliers, and by focusing on specific DRGs.

All cases reviewed for any reason will be reviewed against the HCFA-approved generic screens to assist in identification of potential quality problems. In general, these screens relate to discharge planning, medical stability of the patient at discharge, unexpected or unexplained deaths, unscheduled return to the operating room and any trauma or other physical injury suffered in the hospital.

Any case failing one or more of the screens will be reviewed by a physician advisor. If the physicians advisor identifies a serious quality concern based on review of the medical record, the physician involved receives a letter regarding the concern and requesting a written response. During the first 90 days of the new contract, all such cases will be tracked to identify areas of quality concern that will become the target of focused review and other activities to reduce the incidence of adverse outcomes. Use of generic quality screens on all cases reviewed will continue throughout the entire contract period, similar to the manner in which MPCRF currently employs this methodology.

MPCRF has identified five DRGs which are proposed for 100% retrospective review during the two-year contract. These were selected because of their volume and/or denial rates and the fact that they contain procedures which often can be performed safely on an outpatient basis. In addition, HCFA identified as outliers DRGs 115-118 (pacemaker implant and reimplant) and requires retrospective review of all cases involving DRGs 088, 462, and 468 (COPD, rehabilitation and principal diagnosis with unrelated or procedure), bringing to 12 the potential number of DRGs included under this objective. MPCRF proposes to reduce the percentage of cases with quality problems in this group of DRGs by 50%, from an approximate 5% level, based on 1985 data.

Utilization Objective

Under the utilization objectives, the PRO is to reduce unnecessary admissions by focusing on specific providers, practitioners and DRGs.

Providers and Practioners MPCRF will focus review on providers whose denial rates exceed 5% or a minimum of six cases in a quarter to reduce admissions to this group by at least three percentage points. In addition, MPCRF has identified a list of 30 physicians who had at least ten denials on admissions occurring January 1, 1985, through December 31, 1985, with at least 40% of their cases reviewed. Reviews will be intensified at the 100% level on each of these physicians until a physician's number and rate of denials drops significantly. Any physician who receives 20 denials in a 12-month period will be subject to sanction activity and will be so notified. The rolling list of physicians will be updated monthly. As a result, some physicians may be dropped from the list while others are added.

The public release by HCFA in March of more than 74 hospitals considered to be mortality and discharge outliers raised major concerns in the medical community. It also raised questions regarding the PRO review of individual institutions included on the list, which in Missouri numbered 70.

"The public release by HCFA in March of more than 74 hospitals considered to be mortality and discharge outliers raised major concerns in the medical community."

The data released by HCFA were based on Medicare admissions during calendar year 1984 and resulted from application of an untested HCFA model employing multiple linear regression analysis. In very simple terms, HCFA generated a predicted level of discharges or deaths and compared that with the hospital's actual experience. When the difference (positive or negative) was such that it could not have occurred statistically by chance alone, the hospital was labeled an outlier. While there was no presumption of inappropriate care in a given hospital, many hospitals on the list, and by inference their physicians, were placed in a defensive public posture.

The foundation will independently evaluate HCFA's list based on its own 1985 data. As a result, we anticipate the final list will be determined through additional analysis and the negotiation process.

Waiver of Liability

The concept of waiver of liability holds that a patient, provider or practitioner who could not reasonably have known that care received was not covered by the Medicare program should not be held financially responsible for expenses incurred relating to the provision of that care. Such cases are said to be "paid under waiver."

Cognizant of the possible cost savings to Medicare by paying only a few cases "under waiver," combined with the fact the PRO program has been in operation for nearly two years, HCFA issued in February in the *Federal Register* final rules eliminating favorable presumption entirely beginning with "services provided on or after March 24, 1986." In so doing, PROs will be making case-by-case determinations on all denials. Given the length of time the PRO program has been in operation, the information disseminated statewide to physicians and hospitals regarding the review process and screening criteria, and the accumulated experience of physicians and hospitals with Medicare's requirements, HCFA believes that only a small portion of cases denied should be eligible for payment. Without the cushion of favorable waiver that many good-performing hospitals have enjoyed until now, physicians should be aware that denials of inappropriate admissions will have a direct negative impact on the Medicare reimbursement received by hospitals in which they practice.

Discussion

One of the major elements of review under the new scope of work that is certain to generate strong interest in the medical community is the intensification of individual physicians. As noted earlier, there are approximately 30 physicians who had ten or more denials for admissions occurring during calendar year 1985. It is noteworthy that no denials issued on cases for which the admission was prior to January 1, 1985, were counted, since the Foundation Board felt the first four months of the program should be considered a learning experience. As a group, these physicians accounted for 543 denials, an average of 18 each. Fewer than one half of 1% of the more than 10,000 physicians who practice in the state of Missouri accounted for about 15% of the denials issued. If we were to include physicians having five to nine denials, it becomes apparent that the inability or unwillingness of physicians to adjust to the realities of the Medicare program specifically and the practice of medicine generally in the United States today is concentrated in a very small minority.

The vast majority of physicians in Missouri practice effective, efficient, humane, and quality medicine. Yet, the majority is often penalized because of the actions of a handful of peers. We all wish at times that we could return to the "old days" of practicing medicine. We cannot, but we can work cooperatively with this handful of colleagues to help bring them into the mainstream of medical practice. If we are unable to do so, some of the physicians could be subject to sanctions, including exclusion from the Medicare program. The Foundation will embark on such serious actions only when other avenues have been pursued unsuccessfully. Sanctions are, in many respects, the ultimate indicator of the failure of the educational process, and the Foundation has no desire to fail. At the same time, it keenly recognizes a responsibility to discharge its own obligations under the Medicare program.

Physicians with ten or more denials in the previous twelve months have received letters and individual meetings have been held informing them of the potential of sanction activity. They have been informed that another letter will be sent if a physician experiences 15 denials. Twenty denials in twelve months will trigger a sanction recommendation to the Office of the Inspector General. One physician had 41 denials; another one had 30 denials. Some of these physicians feel they can carry on business as usual. It simply is not possible any more.

We enlist the support and encouragement of the 99% of Missouri physicians who have, by and large, successfully adapted to the plethora of changes in medical practice and review in working with their recalcitrant colleagues. The Foundation, as always, is willing to work with physicians and hospitals to provide consultation, technical assistance, and support in this endeavor. ■

> "There are 30 physicians with 10 or more denials for admissions occurring during 1985; this group accounted for 543 denials or an average of 18 each."

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Clay-Platte	Mark Gordon, *N. Kansas City*
Clay-Platte	Donald E. Kuenzi, *Kansas City*
Clay-Platte	Stephen McCray, *Gladstone*
Clay-Platte	Carl M. Myers, *Platte City*
Clay-Platte	Stephen Vilmer, *N. Kansas City*
Grand River	John R. Dixon, *Brookfield*
Grand River	Merriam Gearhart, *Bethany*
Northwest	Edward F. Bare, *Tarkio*
Northwest	Patrick B. Harr, *Maryville*

Second District

Chariton-Macon-Monroe-Randolph	James Campbell, *Macon*
Chariton-Macon-Monroe-Randolph	C. C. Cohrs, *Moberly*
Chariton-Macon-Monroe-Randolph	J. Will Fleming, *Moberly*
Northeast	H. P. Jayanandaiah, *Hannibal*
Northeast	Carl Kruse, *Palmyra*
Northeast	Edward Plowman, *Hannibal*
Pike	John W. Middleton, *Louisiana*

Third District

St. Louis	Luis Anglo, *St. Louis*
St. Louis	John T. Anstey, *St. Louis*
St. Louis	Matt H. Backer, *St. Louis*
St. Louis	William Harold Bailey, *St. Louis*
St. Louis	Vernon H. Balster, *St. Louis*
St. Louis	M. Roman Banton, *St. Louis*
St. Louis	William C. Banton II, *St. Louis*
St. Louis	Arthur E. Baue, *St. Louis*
St. Louis	Joe E. Belew, *St. Louis*
St. Louis	John W. Berry, *St. Louis*
St. Louis	Paul J. Bettonville, *St. Louis*
St. Louis	Ralph L. Biddy, *St. Louis*
St. Louis	George M. Bohigian, *St. Louis*
St. Louis	C. Read Boles, *St. Louis*
St. Louis	Harold H. Bowerman, *St. Louis*
St. Louis	Saul Boyarsky, *St. Louis*

St. Louis	Armand E. Brodeur, *St. Louis*
St. Louis	Arnold G. Brody, *St. Louis*
St. Louis	Kenneth Bruns, *St. Louis*
St. Louis	R. Wm. Burmeister, *St. Louis*
St. Louis	Robert Burstein, *St. Louis*
St. Louis	Fritz Byrum, *St. Louis*
St. Louis	Edmond B. Cabbabe, *St. Louis*
St. Louis	Sol Cantor, *St. Louis*
St. Louis	Mary E. Case, *St. Louis*
St. Louis	Frank J. Catanzaro, Jr. *St. Louis*
St. Louis	Nicholas J. Colosi, *St. Louis*
St. Louis	Richard J. Dames, *St. Louis*
St. Louis	Richard K. Danis, *St. Louis*
St. Louis	Jonathan D. Dehner, *St. Louis*
St. Louis	Ira J. Kodner, *St. Louis*
St. Louis	Donald J. Dickler, *St. Louis*
St. Louis	Peter Diemer, *St. Louis*
St. Louis	Robert K. Dorton, *St. Louis*
St. Louis	Joseph P. Drozda, *St. Louis*
St. Louis	James E. Edwards, *St. Louis*
St. Louis	Richard H. Fallon, *St. Louis*
St. Louis	Mark R. Feldman, *St. Louis*
St. Louis	Wilfrido C. Feliciano, *St. Louis*
St. Louis	Linda A. Fisher, *St. Louis*
St. Louis	George D. Flanigan, Jr., *St. Louis*
St. Louis	Mariano N. Floro, Jr., *St. Louis*
St. Louis	Paul L. Friedman, *St. Louis*
St. Louis	Milton Fujita, *St. Louis*
St. Louis	Laila G. Gabrawy, *St. Louis*
St. Louis	Joseph Gagliardo, *St. Louis*
St. Louis	Andrew E. Galakatos, *St. Louis*
St. Louis	R. R. Gavini, *St. Louis*
St. Louis	Lance Gerowin, *St. Louis*
St. Louis	Nellie N. Ghosh, *St. Louis*
St. Louis	Richard Gimpelson, *St. Louis*
St. Louis	John H. Gladney, *St. Louis*
St. Louis	Alicia D. Gonzalez, *St. Louis*
St. Louis	Richard Gravis, *St. Louis*
St. Louis	David A. Hardy, *St. Louis*
St. Louis	Richard A. Hartman, *St. Louis*
St. Louis	James J. Hasenmueller, *St. Louis*
St. Louis	Godofredo M. Herzog, *St. Louis*
St. Louis	Albert E. Hesker, *St. Louis*
St. Louis	Vencel Hollo, *St. Louis*
St. Louis	Jack Kayes, *St. Louis*
St. Louis	Alice D. Kitchen, *St. Louis*
St. Louis	Thomas R. Kluzak, *St. Louis*
St. Louis	Harry L. S. Knopf, *St. Louis*
St. Louis	Robert R. Knowles, *St. Louis*
St. Louis	Edaard H. Kowert, *St. Louis*
St. Louis	Jerold J. Kreisman, *St. Louis*
St. Louis	Norton S. Kronemer, *St. Louis*
St. Louis	John M. Laird, *St. Louis*
St. Louis	Joseph J. Lauber, *St. Louis*
St. Louis	Jerome L. L'Ecuyer, *St. Louis*
St. Louis	William F. Leightner, *St. Louis*
St. Louis	Francis X. Lieb, *St. Louis*
St. Louis	Robert R. MacDonald, Jr., *St. Louis*
St. Louis	Otakar Machek, *St. Louis*
St. Louis	Maria E. Manion, *St. Louis*
St. Louis	Ravinder Mehra, *St. Louis*
St. Louis	Jay Meyer, *St. Louis*
St. Louis	Melvin E. Meyer, *St. Louis*
St. Louis	Jerry N. Middleton, *St. Louis*
St. Louis	Robert N. Miller, *Chesterfield*
St. Louis	Emil F. Miskovsky, *St. Louis*
St. Louis	Frank R. Mohs, *St. Louis*
St. Louis	Arturo C. Montes, *St. Louis*
St. Louis	Gerald W. Moritz, *St. Louis*
St. Louis	Daniel J. Murphy, *St. Louis*
St. Louis	Henry D. Onken, *St. Louis*
St. Louis	Frank Ostapowicz, *St. Louis*
St. Louis	Daniel F. O'Sullivan, *St. Louis*
St. Louis	Lourdes Santos-Pardo, *St. Louis*
St. Louis	Meredith J. Payne, *St. Louis*
St. Louis	Frank Petkovich, *St. Louis*
St. Louis	Max Pepper, *St. Louis*
St. Louis	David E. Perkins, *St. Louis*
St. Louis	Paul J. Petruska, *St. Louis*
St. Louis	B. M. Ponnuru, *St. Louis*
St. Louis	B. Prophete, *St. Louis*
St. Louis	Richard T. Quick, *St. Louis*
St. Louis	Bernard C. Randolph, *St. Louis*
St. Louis	James C. Redington, Jr., *St. Louis*
St. Louis	David M. Reisler, *St. Louis*
St. Louis	Frank O. Richards, *St. Louis*
St. Louis	Michael R. Richmond, *St. Louis*
St. Louis	Hubert A. Ritter, *St. Louis*
St. Louis	John Payne Roberts, *St. Louis*
St. Louis	Jo-Ellyn M. Ryall, *St. Louis*
St. Louis	Antonio B. Santillano, *St. Louis*
St. Louis	William F. Sasser, *St. Louis*
St. Louis	Wolfgang P. Schuessler, *St. Louis*
St. Louis	Jeffrey I. Schulman, *St. Louis*
St. Louis	Melvin M. Schwartz, *St. Louis*
St. Louis	Donald G. Sessions, *St. Louis*
St. Louis	Edward J. Shaw, *St. Louis*
St. Louis	Sameer I. Shehadi, *St. Louis*
St. Louis	John B. Shields, *St. Louis*
St. Louis	Jawed H. Siddiqui, *St. Louis*
St. Louis	David L. Simon, *St. Louis*
St. Louis	Kenneth R. Smith, Jr., *St. Louis*
St. Louis	Walter R. Stafford, *St. Louis*
St. Louis	William Stoneman III, *St. Louis*
St. Louis	Allen F. Tess, *St. Louis*
St. Louis	J. Regan Thomas, *St. Louis*
St. Louis	Timothy T. Turner, *St. Louis*
St. Louis	Frank J. Valach, *St. Louis*
St. Louis	H. Philip Venable, *St. Louis*
St. Louis	Leo L. Wacker, *St. Louis*
St. Louis	Bruce J. Walz, *St. Louis*
St. Louis	Joseph W. West, *St. Louis*
St. Louis	Newton B. White, *St. Louis*
St. Louis	Miles C. Whitener, *St. Louis*
St. Louis	James Whittico, *St. Louis*
St. Louis	James R. Wiant, *St. Louis*
St. Louis	Stephen J. Willig, *St. Louis*
St. Louis	Harry A. Wittler, *St. Louis*
St. Louis	Robert A. Young, *St. Louis*
St. Louis	Horst Zekert, *St. Louis*
St. Louis	George H. Zografakis, *St. Louis*

Fourth District

Franklin-Gasconade-Warren	John O'Connor, *Warrenton*
Franklin-Gasconade-Warren	Jim Turner, *Washington*
St. Charles-Lincoln	J. Michael Conoyer, *St. Peters*
St. Charles-Lincoln	Robert Cusworth, *St. Charles*
St. Charles-Lincoln	Russell B. Dieterich, *St. Charles*
St. Charles-Lincoln	David Keefe, *St. Charles*
St. Charles-Lincoln	Brian W. Stufflebam, *St. Peters*

Fifth District

Audrain	J. Thomas Critchlow, *Mexico*
Audrain	Steve Taylor, *Mexico*

Boone	William C. Allen, *Columbia*
Boone	Thomas R. Anderson, *Columbia*
Boone	Charles Barbee, *Columbia*
Boone	Diane Brukardt, *Columbia*
Boone	Jack Colwill, *Columbia*
Boone	George W. Eggers, Jr., *Columbia*
Boone	David Klachko, *Columbia*
Boone	Jerry Murrell, *Columbia*
Boone	Carl Pearman, *Columbia*
Boone	C. E. Gene Ridenhour, *Columbia*
Boone	James Roller, *Columbia*
Boone	Gilbert Ross, *Columbia*
Boone	Garth Russell, *Columbia*
Boone	Hugh Stephenson, *Columbia*
Boone	W. B. Stewart, *Columbia*
Boone	Robert Thomas, *Columbia*
Callaway	Vernon B. Jackson, *Fulton*
Cole	James Allen, *Jefferson City*
Cole	Carl Doerhoff, *Jefferson City*
Cole	Henry Domke, *Jefferson City*
Cole	Don Miller, *Jefferson City*
Cole	Robert Wankum, *Jefferson City*
Lake of the Ozarks	Chris Fotopoulos, *Osage Beach*
Lake of the Ozarks	Ruth Kauffman, *Versailles*

Sixth District

Johnson	David Glover, *Warrensburg*
Lafayette-Ray	Jerry L. Meyer, *Concordia*
Lafayette-Ray	Robert Pavlu, *Carrollton*
West Central	William W. Haynie, *Butler*
West Central	Warren Lovinger, *Nevada*
West Central	Robert Magee, *Eldorado Springs*
West Central	John Torontow, *Nevada*
West Central	William Turner, *Nevada*

Seventh District

Jackson	Keith W. Ashcraft, *Kansas City*
Jackson	Grant Bever, *Kansas City*
Jackson	Douglas B. Bogart, *Kansas City*
Jackson	Raymond J. Caffrey, *Kansas City*
Jackson	Wm. F. Case, *Kansas City*
Jackson	William Dorzab, *Kansas City*
Jackson	Reinhold Engleman, *Kansas City*
Jackson	Chester Fee, *Kansas City*
Jackson	Curtis U. Franklin, *Kansas City*
Jackson	Charles P. Gauthier, *Kansas City*
Jackson	Frederick W. Hahn, *Kansas City*
Jackson	Herman J. Hausheer, *Kansas City*
Jackson	George P. Hoech, *Kansas City*
Jackson	Lloyd A. Hollinger, *Kansas City*
Jackson	Marvin Kahn, *Kansas City*
Jackson	Pierre W. Keitges, *Kansas City*
Jackson	John K. Layle, *Kansas City*
Jackson	King Y. Lee, *Kansas City*
Jackson	Gamaliel G. Lotuaco, *Kansas City*
Jackson	Richard Michelson, *Kansas City*
Jackson	Donald A. Potts, *Independence*
Jackson	Lawrence A. Rues, *Kansas City*
Jackson	Ronald J. Sharp, *Kansas City*
Jackson	Carl Siegel, *Kansas City*
Jackson	Carl Strauss, *Kansas City*
Jackson	Elias M. Throne, *Kansas City*
Jackson	Charles B. Wilkinson, *Kansas City*
Jackson	David G. Wood, *Kansas City*

Eighth District

Dallas-Hickory-Polk-Dade	James L. Molchan, *Bolivar*
Greene	A. A. Ancheta, *Springfield*
Greene	Jordan Burkey, *Springfield*
Greene	William F. Clary, *Springfield*
Greene	Michael S. Clarke, *Springfield*
Greene	Darrel Domann, *Springfield*
Greene	Duane Hellam, *Springfield*
Greene	H. B. Ivy, *Springfield*
Greene	Richard Kissell, *Springfield*
Greene	Norman Knowlton, *Springfield*
Greene	Don Menchetti, *Springfield*
Greene	DeArmond Moore, *Springfield*
Greene	Stanley Peterson, *Springfield*
Greene	Dewayne Piker, *Springfield*
Greene	James N. Pinckley, *Springfield*
Greene	James Schaeffer, *Springfield*
Greene	Ramon Shane, *Springfield*
Greene	Larry Shields, *Springfield*
Greene	Dan Sullivan, *Springfield*
Greene	Norman Wall, *Springfield*
Greene	James Wolfe, *Springfield*
Jasper	Dan J. Borello, *Joplin*
Jasper	Robert B. Brigden, *Joplin*
Jasper	Walter C. Dandridge, *Joplin*
Jasper	Herbert K. Dixon, *Joplin*
Jasper	I. Joe Pryor, *Joplin*
Jasper	Howard H. Roberts, *Joplin*
Jasper	Robert L. Willcoxon, *Joplin*
Ozarks	Paul B. Anderson, *Neosho*
Ozarks	Joe Bizek, *Aurora*
Webster	T. M. Macdonnell, *Marshfield*

Ninth District

Mid-Missouri	Barry Bass, *Rolla*
Mid-Missouri	Edward Jenkins, *Waynesville*
Mid-Missouri	Barbara Russell, *Rolla*
South Central	David Barbe, *Mountain Grove*
South Central	T. R. Stubbs, *West Plains*
South Central	Joseph Wall, *Houston*

Tenth District

Butler-Wayne-Ripley-Carter	T. Eugene Ruff, *Poplar Bluff*
Butler-Wayne-Ripley-Carter	Kirby Turner, *Poplar Bluff*
Cape Girardeau	Jean A. Chapman, *Cape Girardeau*
Cape Girardeau	Gordon W. Eller, *Cape Girardeau*
Cape Girardeau	Theodore J. Glenn, *Cape Girardeau*
Cape Girardeau	J. Marshall Jung, *Cape Girardeau*
Cape Girardeau	Richard E. Moore, *Cape Girardeau*
Cape Girardeau	Ronald W. Swinfard, *Cape Girardeau*
Dunklin	Nicholas Robinson, *Kennett*
Jefferson	Benjamin I. Albano, *Crystal City*
Jefferson	Martha Reed, *Hillsboro*
Perry-Ste. Genevieve	Job B. Pontillas, *Perryville*
Perry-Ste. Genevieve	Niranjana Raju, *Ste. Genevieve*
SEMO	Jim Heath, *Sikeston*
SEMO	Edwin Masters, *Sikeston*
SEMO	Anthony Poole, *Sikeston*
SEMO	Wm. Shell, *Sikeston*

DELEGATES-AT-LARGE

Barbara Buchanan, *Kansas City*, Speaker
Arlen D. Winsky, *Springfield*, Vice Speaker

Past-Presidents

Richard V. Bradley, *St. Louis*
Walter T. Gunn, *St. Louis*
John N. Martin, *St. Joseph*
Howard J. McAlhany, *Springfield*
Andrew McCanse, *Kansas City*
E. Stricker, *Rolla*
Byron M. Stuart, *Boonville*
Ronald A. Youmans, *Kansas City*
J. M. Stokes, *St. Louis*

Medical School Deans

William D. Bradshaw, *University of Missouri-Columbia*
William Stoneman III, *St. Louis University*

Student Delegates

Mr. Dean Blakely, *University of Missouri-Columbia*
Mr. Brad Freilich, *University of Missouri-Kansas City*
Mr. Lee W. Godwin, *St. Louis University*
Mr. Larry Katz, *University of Missouri-Columbia*
Mr. Michael W. Knudsen, *University of Missouri-Kansas City*
Mr. Jeff Wadley, *St. Louis University*

Dr. James Redington, Jr., Chairman of the Committee on Credentials, reported that nine officers, 19 councilors, and 118 delegates were present. The minutes from the 127th Annual Convention were approved as published in the July 1985 issue of *Missouri Medicine.*

The Speaker introduced Walter A. German, M.D., president; Mrs. Mary McPhee, AMA Auxiliary president, and Mrs. George "Chris" Bohigian, president of the MSMA Auxiliary. Dr. German, Mrs. McPhee, and Mrs. Bohigian addressed the House, and their remarks are published in this issue beginning on page 394.

Mrs. Bohigian asked Dr. German to assist her in presenting the AMA-ERF checks to Missouri's four medical schools: University of Missouri-Columbia, $9,754.45 in designated contributions; University of Missouri-Kansas City, $6,110.58 in contributions; Washington University, $7,137.87 in contributions; and St. Louis University, $17,413.89 in designated contributions.

The Vice Speaker assumed the chair and called Dr. German to present special awards. Dr. German recognized Edward M. Hirsch, who recently retired as Executive for the Buchanan County Medical Society, for his contributions to the civic and religious affairs of St. Joseph, MO. Mr. Hirsch was presented with a special award of appreciation, and he then addressed the House.

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Dr. German thanks Edward M. Hirsch for his service to the medical community as Executive Director of the Buchanan County Medical Society.

In absentia, the following state legislators were honored for their support of MSMA: Sen. Robert T. Johnson of Lee's Summit; Sen. Jim Mathewson of Sedalia; Sen. Marvin Pfoffer of Jackson County; Rep. Ray Hamlett of Laddonia; and Rep. Douglas Harpool of Springfield.

Dr. Jerry Meyer of the Lafayette-Ray County Medical Society then introduced a courtesy resolution to commend Dr. German's efforts and to show appreciation for his service.

Dr. Jerome Thies presented the Report of Missouri Patient Care Foundation to the House, and Dr. Richard Bradley presented the report on MOMEDICO.

The Vice Speaker announced that the Supplemental Report of the Council was distributed to each delegate and that the report would be referred to the Reference Committee on the Report of Officers.

Dr. German announced the following names of the new members of the Nominating Committee: First District, Dr. Stephen McCray, Gladstone; Second District, Dr. Carl Kruse, Palmyra; Third District, Dr. William Benton, St. Louis; Fourth District, Dr. Paul Rother, St. Charles; Fifth District, Dr. Jerry Murrell, Columbia; Sixth District, Dr. Robert McGee, Eldorado Springs; Seventh District, Dr. Keith Ashcroft, Kansas City; Eighth District, Dr. Stanley Peterson, Springfield; Ninth District, Dr. Bruce Preston, West Plains; Tenth District, Dr. Theodore Glenn, Cape Girardeau; and Student Councilor District, Brad Freilich, UMKC.

The House of Delegates stood and observed a moment of silence in tribute to those MSMA members who had died since the 1985 Annual Convention.

As unfinished business the Speaker began with Report A on Unified Membership from the Committee on Constitution and Bylaws. Speaker Buchanan referred to Amended Resolution 2, concerning Unified Membership from the 1985 Annual Convention. It stated that all members of MSMA shall also be members of AMA unless already members of the American Osteopathic Association. The resolution was referred to the Committee on Constitution and Bylaws since there was some question about exempting osteopathic physicians. The AMA was contacted by letter if this would comply with their rules on unified membership. The AMA responded that the language contained in the amendment exempting AOA members would not constitute unified membership. The Committee on Constitution and Bylaws suggested a variation of wording which was published in the February and March issues of *Missouri Medicine.*

After extensive and controversial debate from the House, the above Report A was voted on and was defeated.

Finally, new business was introduced. The following late resolutions were introduced by Dr. Ed Masters of Sikeston entitled 1) "Loser Pays Two-Thirds of Winner's Legal Expenses"; 2) "Plaintiff's Contributory Negligence in Tort Lawsuits: Reduce Award by Percent Negligent"; 3) Tax Credits for Medicaid Providers, et cetera; 4) "Prohibit Malpractice Insurance from Being a Requirement for Hospital Staff Privileges"; 5) "Due Process for Expropriated Earned Income"; 6) "Malpractice Expert Witnesses"; and 7) "Malpractice Statute of Limitations." These late resolutions all passed, were numbered 22-29, respectively, and were all referred to the Reference Committee on Resolutions.

The next late resolution was introduced by Boone County Medical Society and entitled "Graduate Medical Education Requirements for Medical Licensure." This resolution passed, was numbered 30, and referred to the Reference Committee on Resolutions.

Another late resolution was introduced by the MSMA Council and entitled "Extension of Missouri State Medical

Foundation Assessment." It passed, was numbered 31, and referred to the Reference Committee on Reports of Officers.

Having no further business, the Speaker adjourned the First Session of the MSMA House of Delegates.

SECOND SESSION

The Second Session of the House of Delegates was called to order by Speaker Barbara Buchanan at 2:00 p.m. on Friday, April 3, 1986.

Dr. Redington of the Committee on Credentials reported that nine officers, 19 councilors, and 288 delegates were present and constituted a quorum.

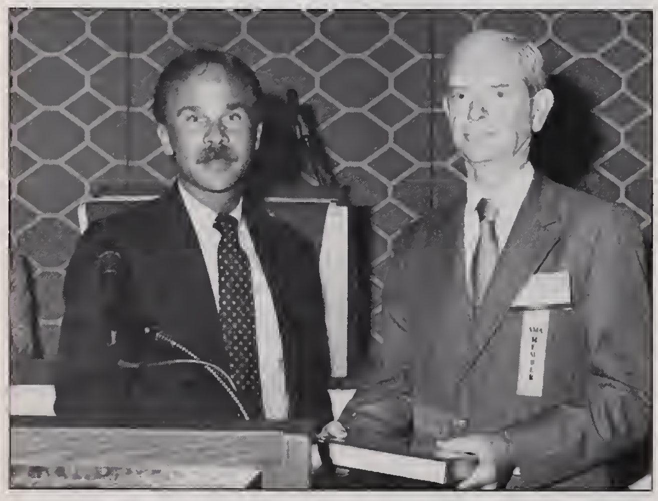
Reference Committee on Constitution and Bylaws

Speaker Buchanan stated that the Committee recommended adoption of the following reports: Report B concerning the Resident Physician Section; Report C concerning the Impaired Physician Committee, with minor changes to the report; and Report D, with two housekeeping changes, concerning the Election of Officers bylaw changes and Committee on Nominations bylaw changes. All reports passed and were adopted by the House.

Next, Dr. John Martin presented the Report of MMPAC and stated that Missouri is in the upper 10 of all state PAC's. The PAC has 100 more members and its largest number of sustaining members.

Vice Speaker Winsky assumed the chair and called on Dr. German who presented Dr. Martin with a plaque from Tom R. Bergland, Chairman of the AMPAC. It was in token of appreciation for all of the work Dr. Martin has performed on behalf of MMPAC and the physicians in the state of Missouri during his nine years at the head of MMPAC.

Mr. Gary Kiem of Sandoz Pharmaceuticals presented the first place honors in Medical Journalism to Dr. Jordan Burkey, editor of *Missouri Medicine.* The award honors excellence in design and editorial qualities.



Gary Kiem of Sandoz Pharmaceuticals presents Dr. Jordan Burkey, editor of Missouri Medicine, *with first place honors in Medical Journalism.*

The Vice Speaker then called on Dr. Stanley Peterson, Chairman of the Nominating Committee, to give his committee's report. Dr. Peterson presented his committee members: Dr. Stephen McCray, Gladstone; Dr. Carl Kruse, Palmyra; Dr. George Bohigian, St. Louis; Dr. William Richardson, Union; Dr. Jerry Murrell, Columbia; Dr. Robert McGee, Eldorado Springs; Dr. Keith Ashcraft, Kansas City; Dr. Theodore Glenn, Cape Girardeau, and Brad Freilich, from UMKC. He then presented the Committee's recommendations: For President-Elect — Dr. Larry Piepergerdes; for Vice Presidents — Dr. Hugh E. Stephenson, Jr., Dr. Theodore Paletta, and Dr. T. M. MacDonnell; for Speaker of the House of Delegates, Dr. Arlen D. Winsky; for Vice Speaker, Dr. Jo-Ellyn Ryall; for AMA delegates, renominated — Dr. Hugh E. Stephenson, Jr., Dr. Francis X. Lieb, Dr. Richard P. Bowles, and Dr. George Bohigian; for AMA Delegate — Dr. Vernon Balster; for AMA Alternates — Dr. Richard Bradley, Dr. Martin Crow, Dr. Robert R. MacDonald, Dr. Larry Piepergerdes, Dr. Walter German, and Brad Freilich as student representative.

Drs. Berry Ivy, Peter Ekern, Andrew McCanse, and Barbara Buchanan give their full attention to the matters of the House during the Second Session.

Reference Committee on Reports of Officers

Dr. Keith Ashcraft, chairman of the Reference Committee on Reports of Officers, reported the following items were placed on the Consent Calendar:

1. Report of the President.
2. Report of the MSMA Auxiliary President.
3. Report of the Committee on Legislative Affairs.
4. Report of the Secretary.
5. Report of the Treasurer, MSMA Financial Statement.
6. Report of the Executive Vice President.
7. Council minutes.
8. Report of the Missouri State Medical Foundation, MSMF Financial Statement.
9. Report of the Commission on Public Affairs.
10. Report of the Committee on Publication.
11. Report of the Commission on Medical-Legal Affairs.
12. Report of the Ad Hoc Committee on Sunsetting.

There being no objections, these items were adopted.

House action on the following resolutions appears in the section "Resolutions" on pages 389-393.

Resolution 1. MSMA Dues Increase for 1987
Resolution 2. Development and Implementation of MSMA-Sponsored IPA/HMO
Resolution 3. MSMA Officer Visitations
Resolution 6. Clarification of Malpractice Terminology
Resolution 10. Funding for Medical Student Delegates to AMA
Resolution 11. Distribution of MISSOURI MEDICINE to Medical Student Members
Resolution 13. Medical Student Dues
Resolution 20. Student/Resident Delegate to AMA
Resolution 31. Extension of MSMF Assessment

Dr. Ashcraft's Committee included Dr. Duane C. Hellam, Springfield; Dr. Barry J. Bass, Rolla; Dr. David M.

Reisler, Chesterfield, and Dr. Stephen A. McCray, Gladstone.

Reference Committee on Resolutions

Speaker Buchanan introduced Dr. Regan Thomas, Chairman, St. Louis; Dr. Lawrence Rues, Kansas City; Dr. Jo-Ellyn M. Ryall, St. Louis; Dr. Benjamin I. Albanon, Crystal City; and Lehman W. Godwin, student, St. Louis University.

Dr. Thomas reported the following reports which were placed on the Consent Calendar by his committee:

1. Report on the Commission on Medical Economics, Third Party Medicine and Governmental Relations.
2. Report of the Commission on Continuing Education and Health Manpower.
3. Report of the Committee on Impaired Physicians.
4. Report on the Commission on Interspecialty Medicine.

There being no objections, the above items were adopted.

House actions on the following resolutions are reported in the section, "Resolutions," on pages 389-393.

Resolution 4. Missouri Patient Care Review Foundation
Resolution 5. Insurance: Right to Know
Resolution 7. Board of Registration for the Healing Arts
Resolution 8. Aggressive Stand on Optometry
Resolution 9. Action to Counteract AIDS Panic
Resolution 12. Opposition to South African Apartheid System
Resolution 14. Improvement of Safety of School Children on School Busses
Resolution 15. Division of Insurance Regulation of Self-Insured Programs
Resolution 16. Improvement of Pre-Hospital Care
Resolution 17. Returning to the Pre-1970 AMA Policy Regarding Abortion
Resolution 18. Self-Insured Health Insurance Programs
Resolution 19. Tax Exempt Status of Non-Profit Hospitals
Resolution 21. Death Prolonging Procedures Act
Resolution 22. Tort Reform: Loser Pays ⅔ of Winner's Legal Expenses
Resolution 23. Plaintiffs Contributory Negligence in Tort Lawsuits: Reduce Award by % Negligent
Resolution 25. Recognition of Contributory Negligence in OB Malpractice Lawsuits
Resolution 26. Prohibit Malpractice Insurance from Being a Requirement for Hospital Staff Privileges
Resolution 28. Malpractice Expert Witness
Resolution 29. Malpractice Statute of Limitations
Resolution 24. Tax Credits for Medicaid Providers to Partially Offset Unconstitutional Forced Subsidy to State
Resolution 27. Due Process for Expropriated Earned Income
Resolution 30. Graduate Medical Education Requirement for Medical Licensure

There being no Unfinished Business, Speaker Buchanan asked for New Business.

Dr. Knopf announced Missouri's involvement in the National Eye Care Project through the Missouri Ophthalmologic Society and the Foundation of the American Academy of Ophthalmology. United States citizens and residents over age 65 may call 1-800/222-EYES to obtain information about eye care. If such patients are indigent or have no resources to pay for the care, then volunteer ophthalmologists in the state will see them for free. Dr. Knopf then made a motion for the MSMA House of Delegates to endorse this project. The motion passed.

Dr. Regan Thomas explains the decisions made by the Reference Committee on Resolutions which he chairs.

There being no other new business, the Speaker adjourned the Second Session of the MSMA House of Delegates.

THIRD SESSION

The Third Session of the House of Delegates was called to order by Speaker Barbara Buchanan at 7:30 a.m. on Sunday, April 6.

Speaker Buchanan announced that the Auxiliary had raised almost $7,000 for the AMA-ERF.

Dr. Redington, Chairman of the Credentials Committee, reported that nine officers, 19 councilors, and 300 delegates were present.

Vice Speaker Winsky assumed the chair and announced the Election of Officers, AMA Delegates, and AMA Alternates. The report of the Nominating Committee was given during the Second Session. The slate of officers for 1987 presented by this Committee was unanimously elected and includes:

President-Elect	Dr. Larry Piepergerdes, *Kansas City*
Vice Presidents	Dr. Hugh E. Stephenson, Jr., *Columbia* Dr. Theodore Poletta, *St. Louis* Dr. T. M. MacDonnell, *Marshfield*
Speaker of the House	Dr. Arlen Winsky, *Springfield*
Vice Speaker of the House	Dr. Jo-Ellyn Ryall, *St. Louis*
AMA Delegates	Dr. Hugh E. Stephenson, Jr., *Columbia* Dr. Francis Lieb, *St. Louis* Dr. Richard Bowles, *Liberty* Dr. George Bohigian, *St. Louis*
AMA Alternate Delegates	Dr. Richard Bradley, *St. Louis* Dr. Martin Crowe, *Kansas City* Dr. Robert MacDonald, *St. Louis* Dr. Larry Piepergerdes, *Kansas City* Dr. Walter German, *Springfield* Brad Freilich, *Student*

Dr. Berry Ivy, secretary, announced that the following councilors and vice councilors had been elected:

First District

Councilor	Dr. Richard C. Hedges
Vice Councilor	Dr. Gary A. Dyer

Third District

Councilor	Dr. J. Otto Lottes
	Dr. Frederick Peterson
Vice Councilor	Dr. Arturo Montes

Fifth District

Councilor	Dr. Alan Braun
	Dr. Kenneth Rall
Vice Councilor	Dr. Jerry Murrell

Seventh District

Councilor	Dr. Raymond J. Caffrey
	Dr. Robert T. Gibbons, Jr.
Vice Councilor	Dr. Frederick W. Hahn
	Dr. Barbara Buchanan

Eighth District

Councilor	Dr. Marvin Singleton

Ninth District

Councilor	Dr. Martin Hasek

Student

Councilor	Bradley Freilich
Vice Councilor	Dean Blakely

Dr. Richard Gimpelson then addressed the House of Delegates on his candidacy for U.S. Senate.

House actions on the following resolutions are reported in the section, "Resolutions," on pages 389-393.

Vice Speaker Winsky then had the Reference Committee on Resolutions come forward. Dr. Regan Thomas as chairman of this committee then presented these resolutions for House action:

Resolution 8. Aggressive Stand on Optometry
Resolution 28. Malpractice Expert Witness.

Speaker Buchanan announced Unfinished Business. Seeing none, she called for New Business. Seeing none, Dr. Berry Ivy was called upon for the Installation of Officers.

Following the installation of officers, Dr. Peter Ekern, newly-installed President of MSMA announced appointments to the 1986-87 MSMA standing committees and commissions (Please note that a complete listing of all MSMA standing committees and commissions will appear in the August Directory issue):

Drs. Berry Ivy and Dorothy Reister converse at the President-Elect reception.

MISSOURI
STATE
MEDICAL ASS

Dr. and Mrs. Larry Piepergerdes beam after his selection as president-elect of MSMA for 1986-87.

Committee on Constitution and Bylaws

Dr. Douglas Bogart, *Kansas City*

Committee on Impaired Physician

Dr. John Mihalevich, *Springfield*

Committee on Legislative Affairs

Dr. Jack Matthews, *Jefferson City*

Committee on Planning

Dr. Robert R. MacDonald, *St. Louis*

Committee on Continuing Education and Health Manpower

Dr. Gary A. Dyer, *St. Joseph*

Commission on Medical Economics, Third Party Medicine, and Governmental Relations

Dr. Thomas R. Stubbs, *West Plains*

Commission on Medical-Legal Affairs

Dr. J. Michael Conoyer, *St. Charles*

Action Committee to Negotiate with Third Parties and Hospitals

Dr. Stanley Peterson, *Springfield*

Judicial Council

Dr. Eugene T. Hansbrough, *Poplar Bluff* (reappointed to 5-year term)

Commission on Interspecialty Medicine

Dr. Thomas Critchlow, *Mexico*

On behalf of the St. Louis Metropolitan Medical Society, Dr. Carol Williams, St. Louis, thanked MSMA for having the 128th Convention in St. Louis and for helping to celebrate 150 years of organized medicine in St. Louis.

On behalf of the Lake of the Ozark Medical Society and the Fifth Councilor District, Dr. Chris Fotopoulos invited the Association to the 129th Annual Convention to be held at Tan-Tar-A, April 2-5, 1987, at Lake of the Ozarks.

Speaker Buchanan thanked Dr. Winsky for his work as vice speaker, Dr. Fee for his parlimentary expertise, and the MSMA staff for their hard work and dedication.

The Speaker then adjourned the 128th Annual Convention of the MSMA House of Delegates. ■

■ **Letters,** *continued from page 367*

assumed that it will be struck down there.

For your information, sponsors of **HB 1596** and its Senate companion bill are listed here. Also listed are the affirmative and negative voters in each house. Representatives and Senators should be clearly informed regarding physicians' attitudes toward the effects this bill will have on their practices and their lives.

House Bill 1596 **Sponsor: Jim Barnes (50)**

Ayes 119

Auer
Banton
Barnes 50
Barnes 96
Barney
Barry
Becker 103
Binger
Blunt
Boschart
Brady
Brockfeld
Brown
Browning
Brummel
Butts
Cagle
Cantrell
Carroll
Case
Chatfield
Childers
Cooper
Copeland
Creason
Crump 84
Crump 150
Dames
Danner
David
Dawson
DePasco
Donovan
Dougherty
Doutt
Downing
Driskill
Dunning
Eberspacher
Egan
Fallert
Feigenbaum
Fiebelman
Flotron
Fowler 3
Gann
Goldman
Goward
Graham
Grisham
Hamlett
Hearnes
Hedrick
Hickey
Holland
Howard
Jordan
Kasten
Kelley 6
Koller
Lang
Logan
Lewis
Maddox
Markland
Marriott
Mathews
McCracken
McKenna
McQuitty
Miller
Mitchell
Molloy
Montgomery
Morrison
Mueller
Murphy
Nilges
O'Connor
O'Neill
Ortwerth
Osbourn
Ottinger
Page
Park
Patterson 48
Proffer
Paisch
Rauch
Ribaudo
Riley
Rizzo
Rohrbach
Russell
Schaeperkoetter
Schellhorn
Scott
Scoville
Sego
Smith 117
Smith 4
Staponski
Steinmetz
Stivison
Surfact
Talent
Thomas
Tobin
Townley
Treadway
Ward
Whitehall
Wilkerson
Williams 131
Williams 56
Wohlwend
Woodall
Ziegenhorn

Noes: 036

Abel
Allen
Backer 23
Birch 31
Bland
Burch 124
Clay
Daniels
Ellis
Findley
Ford
Fretwell
Harpool
Hill
Hoblitzelle
Holden
Humphreys
Jacob
Jarman
Kelly 26
Lumpe
Lynn
Marshall
McBride
McCarthy
McCaskill
Morgan
Pauley
Peterson 38
Peeves
Schwaneke
Shear
Shelton
Skaggs
Troupe
Wyrick

Absent and Absent with Leave: 007

Cairns
Martinette
Schlef
Walton
Weber
Young
Youngdahl

Senate Bill 766 **Sponsor: Fred Dyer (2)**

Yeas — Senators

Caskey
Danner
Dennis
Dirck
Doctorian
Dyer
Goode
Johnson
Lybyer
Mathewson
McCarthy
Melton
Merrell
Panethiere
Russell
Schneider
Scott
Sharp
Smith
Staples
Treppler
Wiggins
Wilson (Buchanan) 23

Nays — Senators

Bass
Bild
Jones
Quick
Wilson (Boone) 5

Absent — Senators

Banks
Curls
Strong
Uthlaut
Webster

Absent with Leave: Senator 1

Gannon

Jeanette E. Akher, M.D.
Assistant Professor
Department of Obstetrics and Gynecology
University of Missouri Health Sciences Center

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Missouri Medicine
P.O. Box 1028
Jefferson City, MO 65102

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- ○ **Trained MEGA Representatives can assist your staff in contract interpretation and other purchasing needs.**
- ○ **Newsletters keep you informed of Group activities.**
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- ○ **As membership grows . . . so does our CLOUT . . . and so does your savings.**

Yes. I would like to receive additional information about MEGA's Group Purchasing Plan sponsored by the Missouri State Medical Association.

NAME____________________________

ADDRESS__________________________

CITY______________ STATE____________

ZIP______ PHONE # (   )____________

Resolutions
of the 128th MSMA House of Delegates

Resolution 1

MSMA Dues Increase for 1987

Introduced by the MSMA Council

Resolved, that dues for active members be increased $150 per year; dues for physicians in first year of practice be increased by $75 per year; and dues for junior members be increased $10 per year effective January 1, 1987; and be it further

Resolved, that the Missouri State Medical Association Bylaws be changed to read as follows:

"Section 1 (a). The annual dues of this Association shall be $300 which shall be applicable to each active member of the Association beginning in 1987 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $150 for the first calendar year . . . the per capita levy for junior members shall be $20 per year; . . ."

Fiscal Note: Adoption of this resolution, based on 1985 membership figures, would increase income to the Association by $727,760 in 1987.

House Action: Adopted — Added recommendation that installment payments be made available as soon as possible.

Resolution 2

Development and Implementation MSMA-Sponsored IPA/HMO

Introduced by the MSMA Council

Resolved, that the Missouri State Medical Association Council be directed to develop an Association-sponsored IPA/HMO for the benefits of its members, that a report on this plan be provided to the membership as soon as possible, and if substantial support is found among members, the Council be authorized to implement the plan.

House Action: The above amended substitute resolution was adopted.

Resolution 3

MSMA Officer Visitations

Introduced by the MSMA Council

Resolved, that the Missouri State Medical Association President, President-Elect, and the Chairman of the MSMA Council be required to attend at least one regular meeting of a Missouri component medical society other than his or her own during their term of office; and also be it

Resolved, that each component medical society in the state be visited at least once by one or more of the three aforementioned MSMA Officers or their proxies during their term of office.

House Action: Adopted — Recommendation that the Missouri Delegation to the AMA consider the introduction of a resolution to that body calling for similar actions in principle in AMA relations with state associations and societies.

Resolution 4

Missouri Patient Care Review Foundation

Introduced by the West Central Missouri Medical Society

Resolved, that the Missouri State Medical Association reiterate to HCFA that quality care should be provided to the aged and that this care should not be compromised by detrimental rules and regulations.

House Action: The above substitute resolution was adopted.

Resolution 5

Insurance: Right to Know

Introduced by the Cape Girardeau County Area Medical Society

Resolved, that the Missouri State Medical Association encourage all third party payers to provide an easily understandable explanation of their benefit coverage to their policyholders.

House Action: The above substitute resolution was adopted.

Resolution 6

Clarification of Malpractice Terminology

Introduced by the Cole County Medical Society

Resolved, that the President of the Missouri State Medical Association:

1. Appoint an ad hoc committee to recommend a self-explanatory term such as "malresult," "medical misfortune," "unfortunate occurence," etc. to describe the problem and
2. To conduct an intensive campaign seeking support from all physicians and health related professional and business groups for use of the term, and this having been accomplished
3. The Council to explore the possibility of paid media advertising to publicize the new term and the reasons for its origins.

House Action: Not adopted.

Resolution 7

State Board of Registration for the Healing Arts Financing

Introduced by the Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association urges the Department of Economic Development, the Governor's office and the Missouri General Assembly to consider modifying the budgetary process to assure that budget proposals of the State Board of Registration for the Healing Arts be approved as presented, so long as the expense of such proposals does not exceed monies which are then available in the Board's dedicated fund; and be it further

Resolved, that the Missouri State Medical Association invite the Missouri Association of Osteopathic Physicians and Surgeons to take a similar position on the subject.

House Action: Adopted.

Resolution 8

Aggressive Stand on Optometry

Introduced by the Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association initiate consultation and offer cooperation with the Missouri Ophthalmological Society to continue their joint opposition to efforts by the optometrists to expand their practice rights; and be it further

Resolved, that the Missouri State Medical Association and the Missouri Ophthalmological Society develop, for the benefit of the patients of Missouri, a long range legislative plan to statutorily restrict optometrists from the practice of medicine; and be it further

Resolved, that a copy of this Resolution be forwarded to each member of the Missouri General Assembly as soon as possible.

House Action: The above substitute resolution was adopted.

Resolution 9

Action to Counteract AIDS Panic

Introduced by the Clay-Platte County Medical Society

Resolved, that the Missouri State Medical Association calls on the American Medical Association to utilize every means at its disposal to assist the Centers for Disease Control (CDC), the U.S. Public Health Service, the College Health Association and other appropriate agencies and organizations in disseminating factual information concerning AIDS, but at the same time attempting to counteract the rumors and misinformation which have created an atmosphere of near panic relative to the disease.

House Action: Adopted.

Resolution 10

Funding for Medical Student Delegates to AMA

Introduced by Dean Blakeley and Denise Johnson,
UMC School of Medicine

Resolved, that the MSMA give $1,000 for each of the medical school component societies to use in sending delegates to the Annual and Interim Meetings of the AMA Medical Student Section.

Fiscal Note: $4,000

House Action: Adopted.

Resolution 11

Distribution of MISSOURI MEDICINE to Medical Student Members

Introduced by the Medical Student Delegation

Resolved, that the MSMA send each student member notification requiring positive action, such as returning an enclosed reply card, in order to continue to receive MISSOURI MEDICINE.

House Action: Not Adopted. Please note that the Reference Committee on Reports of Officers made a recommendation that the August Directory issue of MISSOURI MEDICINE not be mailed to students and residents. This recommendation was adopted.

Resolution 12

Opposition to South African Apartheid System

Introduced by Denise Johnson, UMC School of Medicine

Resolved, that the MSMA declare its opposition to the Apartheid system in South Africa; and be it further

Resolved, that the AMA be encouraged to oppose Apartheid, based on the AMA's history of affirming human rights; and be it further

Resolved, that the Missouri delegation submit this resolution to the AMA House of Delegates at its 1986 Annual Meeting.

House Action: Referred to the MSMA Council.

Resolution 13

Medical Student Dues

Introduced by the Medical Student Delegation

Resolved, that the MSMA assess each student member a dues of $8.00 per annum; and be it further

Resolved, that $5.00 of the $8.00 be used by the MSMA, in part, specifically to promote an increase in student membership and also to help send representatives to the annual and/or interim meetings of the AMA; and be it further

Resolved, that the remaining $3.00 be forwarded to the respective medical student societies to be used in the aforementioned manner, as well as to promote local activities.

Fiscal Note: This would increase income to the Association approximately $5,000 based on 1,000 students paying dues. Funding for student delegates would cost approximately $4,000. Net income to Association $1,000. This $1,000 could be used to promote student membership. Resolution would then actually have no impact on Association finances.

House Action: Adopted.

Resolution 14

Improvement of Safety of Schoolchildren on School Buses

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the Missouri State Medical Association, with the full support and endorsement of the East Central Missouri Regional EMS Council and the St. Louis Metropolitan Medical Society, recommend that special criteria for the licensing of school bus operators be established to ensure the safety of passengers. These criteria could include, but would not be limited to the following:

1. An investigation of driving record and prior criminal record.
2. An annual physical exam which would include an opinion from the examining physician as to the mental and physical status of the applicant to operate a school bus, for which said opinion the physician may render confidentially and be held harmless.
3. Demonstrated proficiency in the operation of a school bus test to be designed by the State of Missouri.

House Action: The above substitute resolution was adopted.

Resolution 15

Division of Insurance Regulation of Self-Insured Programs

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA propose to the legislators that these self-insured companies be governed by the same requirement to provide the mandated health coverage as the insurance companies governed by the Director of Insurance.

House Action: Referred to the MSMA Council.

Resolution 16

Improvement of Pre-Hospital Care

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the Missouri State Medical Association recognizes the Standards of medical control of pre-hospital care espoused by the American College of Emergency Physicians and the American College of Surgeons, for the betterment of health of the citizens of Missouri and all who pass through our state; and be it further

Resolved, that these Standards be promoted throughout the state by the Department of Health as ideals to be met insofar as the resources of the local provider units may allow, and be it further

Resolved, that networking of local provider units may increase the quality of care over that possible with local resources.

House Action: The above substitute resolution was adopted.

Resolution 17

Returning to the Pre-1970 AMA Policy Regarding Abortion

Introduced by the St. Louis Metropolitan Medical Society

Resolved, that the MSMA recommends that AMA return to its pre-1970 stand on abortion; and be it further

Resolved, that the MSMA refer this resolution to the AMA for further action. This resolution could be implemented by the insertion of a sentence to this effect in "Current Opinions of the Judicial Council of the AMA-1984:"

2.01 ABORTION. The AMA is neither for nor against abortion. The Principles of Medical Ethics of the AMA do not prohibit a physician from performing an abortion in accordance with good medical practice and under circumstances that do not violate the law. (IV)

House Action: Adopted.

Resolution 18

Self-Insured Health Insurance Programs

Introduced by Michael B. Rumelt, M.D., member, St. Louis Metropolitan Medical Society

Resolved, that the MSMA propose to the legislators that employers and self-insured companies not limit the freedom of patients to go to any physician, uninfluenced by a discriminatory health insurance deductible, not compromise health care for the employee by choosing the physician, not engage in restraint of the patient's chosen doctor to practice his trade, and not threaten loss of worker's compensation if the patient exercises his right to choose his own physician.

House Action: Referred to the MSMA Council.

Resolution 19

Tax Exempt Status of Non-Profit Hospitals

Introduced by the Ozarks Medical Society

Resolved, that any non-profit organization establishing satellite clinics away from their immediate buildings should lose their status as a non-profit corporation and be placed on the tax rolls of the city and county in which they are located; and be it further

Resolved, that if this resolution is adopted, a copy be forwarded to the AMA Annual Session for consideration and adoption.

House Action: Referred to the MSMA Council.

Resolution 20

Student/Resident Missouri State Delegate to the AMA House of Delegates

Introduced by Brad Freilich and Mike Knudsen;
UMKC School of Medicine

Resolved, that the State delegation to the AMA allocate one seat specifically for a medical student and/or resident based on the number of student and resident members of the AMA in this state; and be it further

Resolved, that this shared seat will alternate on a yearly basis between a student and resident chosen democratically by the student and resident members belonging to the AMA from this state; and be it further

Resolved, that this policy take effect with the 1986 Annual Meeting of the AMA House of Delegates.

House Action: Not adopted.

Resolution 21

Death Prolonging Procedures Act

Introduced by Brad Freilich and Mike Knudsen,
UMKC School of Medicine

Resolved, that the Missouri State Medical Association recognizes that the Death Prolonging Procedures Act may, as any piece of legislation is prone, contain a lack of specificity concerning the subject in question; and be it further

Resolved, that the Missouri State Medical Association recognizes that the literal interpretation of the Death Prolonging Procedures Act deprives pregnant women of their right to have their Living Will enforced whatever the term of their pregnancy, and thus may effectively deny women less than 28 weeks pregnant their constitutional right of autonomy over their own life's circumstances; and be it further

Resolved, that the Missouri State Medical Association, despite these ambiguities, strongly endorses the general philosophy and intent of the Death Prolonging Procedures Act.

House Action: Not Adopted.

Resolution 22

Tort Reform: Loser Pays ⅔ of Winner's Legal Expenses

Introduced by Ed Master, M.D., SEMO Medical Society

Resolved, that the Missouri State Legislature be encouraged to pass a tort reform bill that provides that in all tort lawsuits in the State of Missouri, that the State require by law that the loser pay at least ⅔ of the legal expenses of the winner as a matter of law.

House Action: Referred to the MSMA Council; Reference Committee also recommended that the House be provided with annual reports from the Committee to Preserve Health Care.

Resolution 23

Plaintiffs Contributory Negligence in Tort Lawsuits: Reduce Award by % Negligent

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the MSMA encourage the legislature to further clarify and elucidate the concept of joint and several liability such that in any tort lawsuit in the State of Missouri when the Plaintiff is deemed partially responsible or contributory negligence can be proven; that the judges, courts and/or juries be instructed to automatically reduce the amount of the award by the percentage of negligence or liability exhibited by the Plaintiff. This is to be done irrespective of the Defendant's collective or individual liability.

House Action: Referred to the MSMA Council.

Resolution 24

Tax Credits for Medicaid Providers to Partially Offset Unconstitutional Forced Subsidy to State

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that this is a deliberate policy by the State to expropriate private property and services for public use and that since the State apparently does not have enough money to provide for the "just compensation" as required by law; that the legislature enact a law enabling physicians who have been unjustly deprived of their property and services be allowed a tax credit from their state income tax for some of the amount that the state has expropriated from them. A suggested formula would be the difference between 75% of their prevailing charge and the amount that Medicaid reimburses them. This would still be a considerable subsidy for the state and yet would at least allow some physicians to stay in business providing the services which the patients need. It would also recognize the expropriation and subsidy for what it is and allow the physician some recompense, and encourage more physicians to participate in the Medicaid Program.

House Action: Not adopted.

Resolution 25

Recognition of Contributory Negligence in OB Malpractice Lawsuits

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the MSMA encourage the Missouri State Legislature to enact a law encompassing the legal precepts and concepts employed in the new joint and several liability status, the Good Samaritan law, and the concept of contributory negligence, and make it illegal for a woman who has not seen a medical doctor during her pregnancy or who has not obtained basic pre-natal care (even though they often have 9 months to make arrangements) that the Missouri Legislature enact a law giving any health care provider who assists this woman or baby in the delivery of medical care to her or her fetus or baby be given immunity from liability for those desirable services. It is against common sense that the medical provider at the last minute be held liable for the actions of a person who has willfully contributed to her own risk and has increased the burden on the state and the medical care community. This would remove the specter of unjustified malpractice suits to those who willingly provide services to medically needy strangers in urgent circumstances, would encourage early pre-natal care, and would not hold medical care providers unjustifiably responsible for adverse outcomes when the patient's attitude and actions show deliberate and willful contributory negligence.

House Action: Referred to the MSMA Council.

Resolution 26

Prohibit Malpractice Insurance From Being a Requirement For Hospital Staff Privileges

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the MSMA encourage the Missouri State Legislature to enact a bill making it illegal in the State of Missouri for hospitals to require malpractice insurance as a criteria for staff membership and in so doing they would protect and insure the wider access of medical care, the ability of physicians to practice their profession and prevent the potential arbitrary discrimination against certain physicians or specialties on artificial and non-medical grounds that are often beyond the individual physician's control.

House Action: Referred to the MSMA Council.

Resolution 27

Due Process for Expropirated Earned Income

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the MSMA encourage the Missouri State Legislature to pass a law requiring that any organization, agency or other third party who after-the-fact denies a medical provider payment that was supplied on request to a willing recipient or patient, be provided within 30 days upon request all information regarding the procedure, guidelines, criteria, and processes and qualifications that enabled them to forcefully take away the medical provider's earned income against his will. Thus, the Missouri State Legislature would ensure that all medical providers in the State of Missouri are at least provided with information necessary to determine if these people are in compliance with the spirit and the letter of the Constitution of the United States, and be it further

Resolved, that the MSMA and the Missouri State Legislature go on record asking for requirements that all information that involves the expropriation of remuneration for services be completely open and that no information involved in this expropriation be denied to the medical provider involved; provided that the medical provider offered these services in good faith and that the recipient (i.e., the patient) took these services willfully.

House Action: Adopted.

Resolution 28

Malpractice Expert Witness

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the MSMA as part of its function, obtain and review a list of all medical expert witnesses in malpractice cases in the State of Missouri, see if they are MSMA members, and check for the appropriateness of their expert testimony. If there is an apparent ethical or MSMA violation (e.g., a retired GP testifying in a neurosurgery case) then MSMA will send a certified letter to the doctor asking for clarification and explaining that he may be in violation of MSMA rules and could be subject to expulsion. MSMA is then encouraged to take disciplinary action against willful offenders and make public the list of offenders who are willfully unscrupulous and unethical.

House Action: Referred to the MSMA Council so that the Council can develop a mechanism to implement current MSMA policy that appears on Page F of the MSMA Constitution and Bylaws.

Resolution 29

Malpractice Statute of Limitations

Introduced by Ed Masters, M.D., SEMO Medical Society

Resolved, that the Missouri State Legislature amend its Medical Malpractice Statute of Limitations to provide that regardless of the date of discovery, medical malpractice actions must be filed within seven years of the date of occurence.

House Action: Referred to the MSMA Council.

Resolution 30

Graduate Medical Education Requirement for Medical Licensure

Introduced by the Boone County Medical Society

Resolved, that the Missouri State Medical Association endorse the American Medical Association's policy enunciated in "Future Direction for Medical Education" that all applicants for full and unrestricted licensure be required to provide evidence of satisfactory completion of at least one year of an accredited program of graduate medical education in the United States, and be it

Resolved, that the Missouri State Medical Association seek such legislative action to support such a requirement.

House Action: Adopted.

Resolution 31

Extension of Missouri State Medical Foundation Assessment

Introduced by the MSMA Council

Resolved, that the House of Delegates extend the $10 per year assessment on each member for support of the Missouri State Medical Foundation for an additional two years by adopting the following change in MSMA bylaws.

"Chapter VIII, Section 1. (b) An assessment of $10 per year on each active member of the Association shall be applicable for two-year period beginning in (1984) 1987. The assessment shall be payable with the dues of the Association and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation."

House Action: Withdrawn.

Courtesy Resolution on Deceased Members

Whereas, there have been 63 deaths among members since the 1985 Convention, and

Whereas, each of these members is missed as an individual as well as for his/her contributions to the practice of medicine and to the Missouri State Medical Association, and

Whereas, the loss of each member is felt by all members, as well as his/her loved ones, and close associates and the patients he/she has served with dedication, therefore be it

Resolved, that the House of Delegates now pay personal tribute by standing for a moment of silence in memory of each of the 63 members we have lost and whose names will be recorded in the minutes of this Annual Convention.

Yoskit, Harry, *Ridgewood, NY*
Eshelman, Albert D., *Raytown*
Mixson, William C., *Leawood, KS*
Cooper, Claude W., *Thayer*
Chapel, James L., *Columbia*
Altheide, Harvey E., *Ladue*
Durst, Henry, *Fulton*
Lindeman, Carl H., *St. Louis*
Schaffer, Donald M., *Kennett*
Wiles, Jack, *West Plains*
Stelle, Charles W., *Shawnee Mission, KS*
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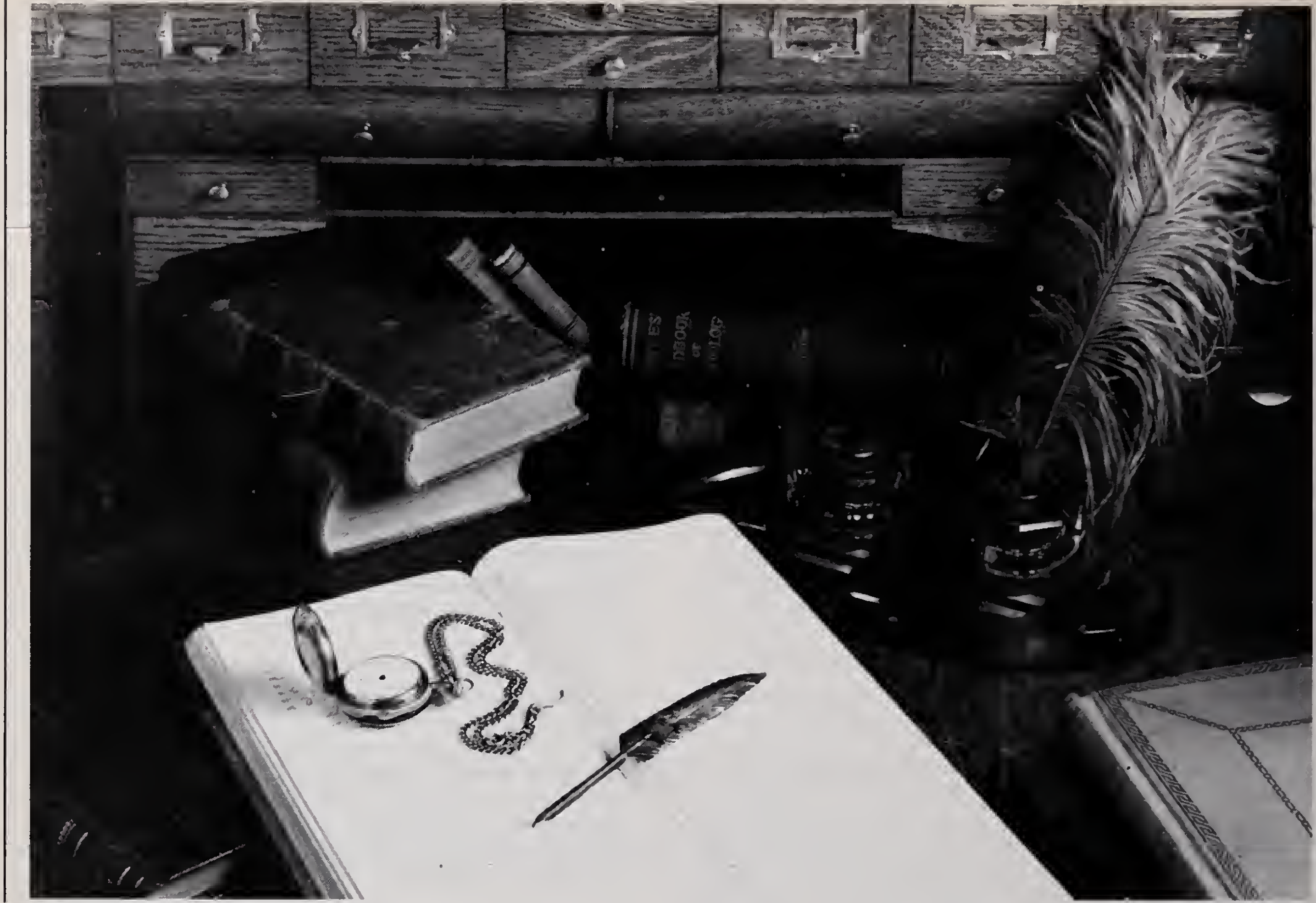

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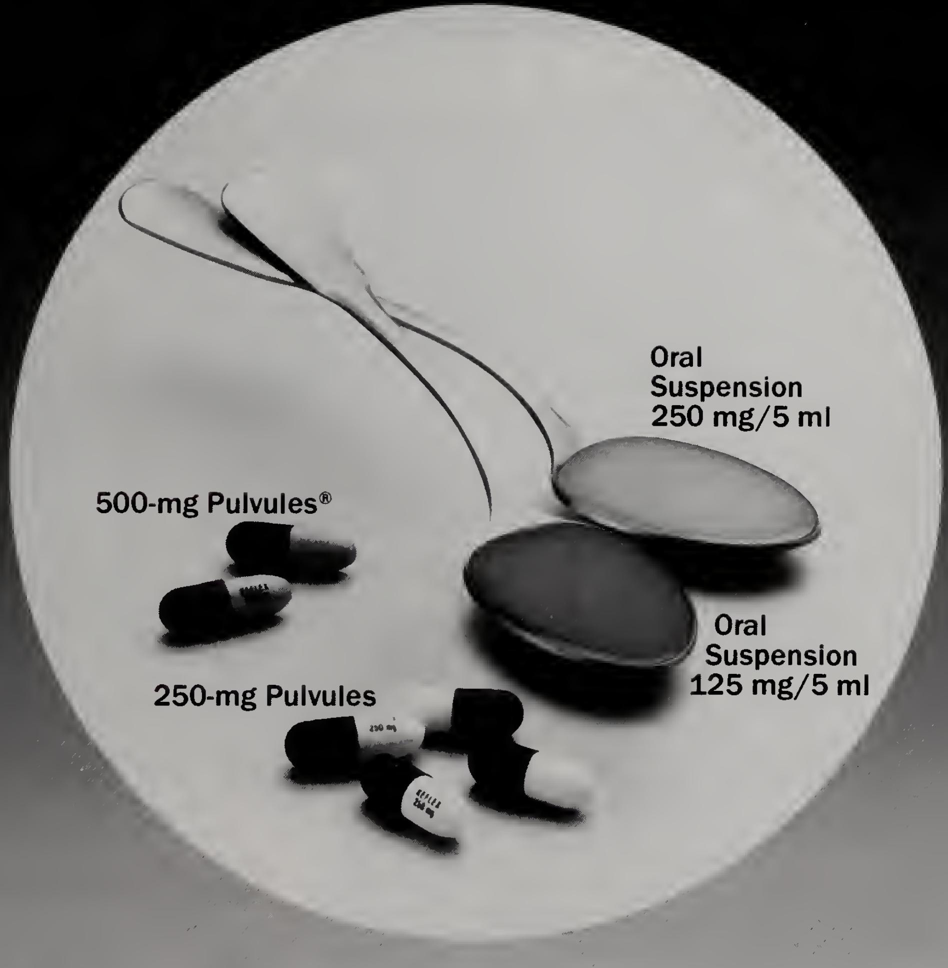

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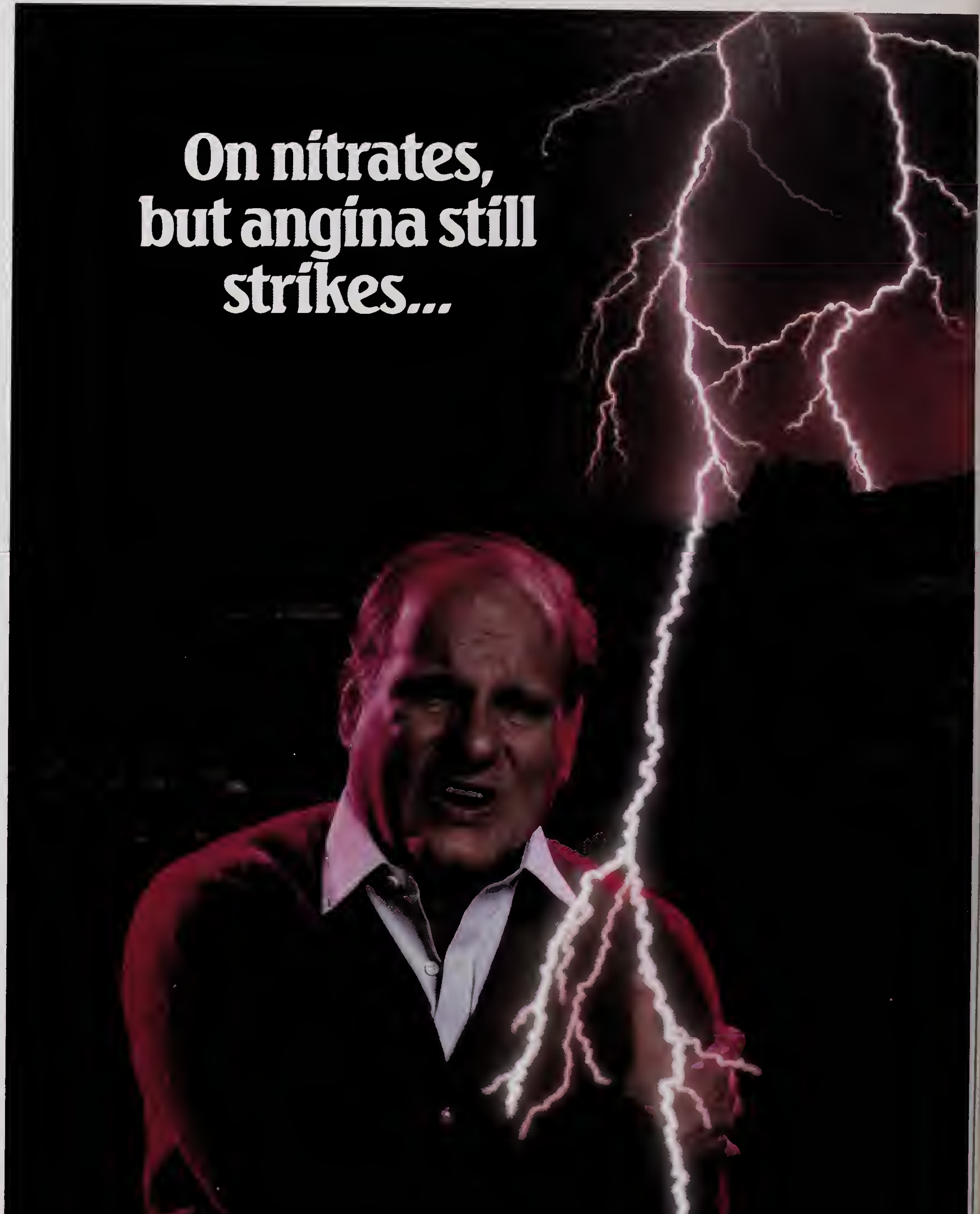
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Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment; however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984. 2385

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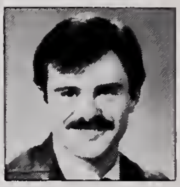

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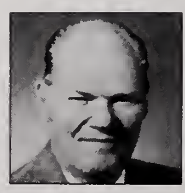

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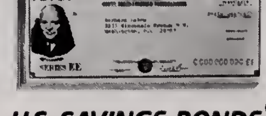

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President's Message

When I took the office of the presidency one year ago, I listed in my initial address to you four goals which I hoped to achieve during this year: to visit and talk with each of the active local medical societies in the state; to improve communications between the Missouri State Medical Association and the practicing doctors in the state, between MSMA and the media, and between MSMA and the state legislature; to work toward a closer union between the various parts of the health care field in the state of Missouri, and to work as hard as possible to achieve passage of a tort reform bill.

This past year I have visited with 38 local county medical societies and eight hospital staff meetings in the two cities. This constitutes every active local medical society in Missouri. When I first started these travels, I was not aware of the actual need and the seriousness of these trips. You cannot imagine the interest and enthusiasm shown to us at every society meeting around the state. I have discovered that the practicing doctors in this state are definitely not apathetic. They are vitally concerned with state medicine and are quite willing to stand up and be counted.

During most of the year the tort reform bill was being formulated and worked on. Its campaign was going to be very expensive, and I told the doctors about this. Literally hundreds of doctors rose with checkbooks in hand asking only how much to contribute and when it would be needed. These doctors listened intently to my message, asked responsible questions and then presented their own local problems.

I am told that the crowds at the society meetings were among the largest in their history. The local doctors came to the meetings not for me personally, but because the president of their state organization was there and they wanted him to know of their interest. I was shocked to find out that eight of our active local societies had never seen an officer of the State Association. This is terrible communication! I note that my recommendation to the Council along this line has been made into a resolution, and if passed, this may well solve a big communications gap. Excellent communications is a vital necessity in this day and time, particularly in the legislative channels.

Walter A. German, M.D.

The recent passage of a tort reform bill into law is an excellent example of the potency and power of our organization. Don't think for one minute that the trial attorneys in Missouri compromised with the doctors out of the goodness of their heart. They compromised because they knew that we, leading the entire health care field, were going to win this battle. They knew that for the first time in the history of Missouri all elements of the health care field had united together with a single goal of obtaining some relief from the malpractice crisis. They knew that we were ready and able to spend a half million dollars on a campaign, and that we had a campaign consultant working with us with plans already drawn. They knew that the legislature and the Governor were well award of the medical malpractice crisis, and that they wanted to do their part to help solve this problem. This is why the trial attorney's signed the compromise.

I don't know of any other state in the union in which such a compromise has occurred with such a successful outcome. You may not realize that if any part of our bill is declared unconstitutional by the courts, these same attorneys will sit down with us once again, reword, and rephrase those parts until the bill does pass the court. This is part of our compromise agreement.

Therefore, we in Missouri have in place a tort reform law second only to California in its depth and scope. It is not the total answer to the malpractice problem, but it is certainly a giant step in the right direction. I would suspect strongly that both large and small business coalitions, seeing the success of the health care field this year, will be on the doorstep of the legislature next year with their own tort reform bills. Any concessions that business get will in turn help us in medicine. We are on the right path towards solving this medical problem, and it is entirely due to you doctors from all over the state —from Hannibal to Joplin and from Kennett to Maryville — uniting and standing steadfastly together behind your State Medical Association. This is a most important fact and this is the basic reason for passing of this bill.

The fortunes of any organization such as the Missouri State Medical Association waxes and wanes with the passage of years. MSMA is at its peak of prestige, potency, and power right now. I really feel sorry for the doctors who are simply riding on our coattails contributing nothing, not even dues, to our Association. They cannot feel the full tinge of success. On the other hand, you members of MSMA should feel proud to know that you have done your part to bring this organization to its present place in the history of Missouri medicine. Our Association has needed your help in the past, we need it now, and we will continue to need it in the future. The road of medicine does not get easier. It will get more rocky, but with your continued unified efforts and singleness of purpose, organized medicine in Missouri will continue to flourish and the doctors will continue to deliver quality health care

We have been given excellent and very fair coverage in our campaigns and in other medicine activities through this year by all components of the media. They, like many political observors, were shocked at the speed with which this bill passed through the legislature

Walter A. German, M.D.

Prior to addressing the Opening Session, Dr. German greets Gov. John Ashcroft at the 128th Annual Convention.

this bill passed through the legislature only one year after four malpractice bills were defeated in committee hearings. Never before has such a major bill passed our legislature so quickly! This is simply a continuation of the excellent legislative record exhibited by our organization. In recent years, only **one** bill detrimental to medicine has passed our legislature. This is not due to luck. This is due to a lot of hard work by our very capable lobbyists, aided in no small part by ever increasing numbers of doctors from all over the state.

Although legislature efforts are a primary function of this State Association, there are so many other programs of action now going on at the state level. In my society visits, I passed out a paper listing some twenty-one different active programs now going on every day. Many of these programs suffer from two few staff personnel, hours, and too little money.

Speaking of our staff, may I say that every one of our employees is a professional. From Royal Cooper on thru every department, I have found a well-trained, well-organized, and well-disciplined office staff, and most important, they are happy and work in close harmony. Their only problem is that our variety of action programs cuts their time very thin. I feel that many of our programs could progress even further and add more benefits to each of us if our staff is increased. I hope that this problem will be resolved in this meeting by changing the dues structure.

I might mention one or two of these programs specifically. John Mihalevich and his committee have been working very hard on our Impaired Physician Program. They are looking for a very responsible director and once this position is filled, this program will be ready to be presented to all doctors in the state. We will have a full rehabilitative program available to care for our sick and impaired physicians, regardless of the cause. By utilizing this program, our state will be able to help those doctors now needing help. This in turn will result in an improved care for our patients. The Impaired Physician Program is a difficult program to work out, but this Committee is making excellent progress.

Another program I want to point to with pride is our state PRO program with its board of directors and executive director. Now, no one liked the intrusion of the federal government into our state medical affairs, but ladies and gentlemen, this state, like all other states, had no choice in this matter. We also have no choice in the rules and regulations coming down from Washington almost daily. The difference in our approach to PRO is this: we have been able to modify the regulations so that in Missouri the PRO becomes more of a teaching and educational exercise, not a punitive exercise. Missouri can do this because MSMA took over the reins of the PRO. The entire board of directors are practicing doctors just like you and I. The executive director is a doctor. We all think like doctors — not like lay bureaucrats.

Last year, had our PRO program in Missouri been run by lay bureaucrats rather than by doctors, 65 doctors in this state would have been sanctioned out of the Medicare program. As it was, only one was sanctioned. The remainder were helped and educated in order to stay in the program. Of your cases, 17% would have been denied hospital admissions during the year, rather than the 4% which were denied in Missouri. These are known facts given us by the "super PRO" organization who have just finished reviewing our state PRO program and activities by request of the federal government. Missouri is known to have one of the best functioning PRO programs now available in the country.

It has been a challenge and a pleasure to work this year toward obtaining a closer working relation with all other parts of the health care scene. The tort reform bill has been a unifying movement and, surprisingly, all factions of the health care scene have found that they could work closely together to solve major problems. With ever increasing intrusion of the federal and state governments into the sphere of medicine, all factions of the health care machine must weld close together and present a united front to the invaders. It is only by such union and by a genuine spirit of friendship and helpfulness that our profession can fight off government intervention. This year we established a definite meeting pattern of executive committees of the Hospital Association, the Osteopathic Association, the Insurance Association, and our Association. Hopefully, these meetings will continue in the future and will develop common programs which in turn will benefit the physicians of our state. Even the trial attorneys would like to establish a regular meeting pattern with our Association. Good communications can help solve many problems and possibly even this type of meeting would prove to be successful. So I can say unequivocally that a much closer union between members of the health care field does now exist.

As I close my year of presidency of the Missouri State Medical Association, I would like my wife, Taney, to join me here at the podium. What success I have had during this year has been due to Taney's active participation in all of the state matters. One year ago she and I discussed this year's program. She convinced me that my update report should be heard not only the doctors in the state, but also by their spouses since both partners are totally involved in the health care problems. By personal sacrifice, my wife accompanied me on all of my visits around the state. Together we have travelled almost 12,000 miles within the borders of our state and talked with more than 3200 doctors and spouses. Both Taney and I will reflect on fond memories of this past year for the rest of our lives. I want to thank this House of Delegates for the great privilege and honor of serving as our president and spokesman during the past year. I, like you, will look forward now to bigger and better programs of action in future years. ■

Richard Gimpelson MD

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Presidential Inauguration Speech

I would like to diverge from the gloom and doom theme so often discussed by medical people and have you to consider with me *"What's right about Missouri Medicine."* I will focus on the increasing role of women in medicine, the vital importance of politics to medicine, and the physician as society views him today.

Organized medicine had its beginnings here in St. Louis. The St. Louis Medical Society predates the AMA by some 11 years and the MSMA by 14 years. This is the 150th anniversary year for the St. Louis Medical Society.

This year St. Louis has a candidate for the President of the AMA, our own Dr. Hubert Ritter. Also, Dr. George Bohigian is a candidate for re-election to the AMA Council on Scientific Affairs. In addition, St. Louis has provided numerous presidents of the MSMA and much leadership through the years. I would challenge St. Louis to continue to accept this role of leadership in our state society.

Long will I remember their annual meeting in January when a huge cake was lighted and later cut as a "Happy Sesquicentennial Birthday" was sung by all. A more important milestone of that evening, however, was the inauguration of the first woman president of the St. Louis Metropolitan Medical Society, Dr. Carol Williams.

At the opposite end of the Missouri I-70 female connection for Missouri Medicine is Dr. Dorothy Riester, now president of the second largest medical society — The Jackson County Society. Also Dr. Barbara Buchanan is Speaker of our House of Delegates. The continued, increasing role of woman in medicine, and particularly in organized medicine, for positions of leadership is right for Missouri medicine.

The recent AMA Women in Medicine Project reports "what a difference a decade makes." In the past ten years the female physician has evolved from a novelty to become an integral and essential component of the health care scene. Today 13% of physicians are women and this will soon change since one-third of medical students are female.

H. Peter Ekern, MD

However, fewer female physicians are seen in positions of leadership, and the membership rate in professional organizations is low. A number of issues of unique interest to women need to be addressed by organized medicine, such as childbearing and medical practice, child care, sexist attitudes and policies, and equal rights for women. The future of female physicians must develop from these shortcomings in order to eliminate the remaining barriers facing women in American medicine. Missouri is on the *right* track.

To further show the growing role of women, I would point out that Mary Kay McPhee of Kansas City is the third Missourian to be president of the AMA Auxiliary. The auxiliary works for you and your community — it facilitates programs throughout the nation by providing a network of nearly 80,000 volunteers to promote health education and services — more than 5300 community health projects in 1985, and they stand ready, willing and able to help, particularly in the area of legislative action and any other activity that may be requested by physicians in organized medicine.

Chris Bohigian, as recent president of the 1400 member MSMA Auxiliary, and Gayle Vilmer, now president, have "run twice as fast as they can," and indeed have "gone places." The auxiliary was busy with the Impaired Physician Program, showed great concern for older Americans in helping to serve their special needs, and the continuation of the organ donor program. These, in addition to the ongoing concerns of child abuse, fetal alcohol syndrome, child safety restraints, teen-age pregnancy — a problem costing us 16.6 billion dollars in the U.S. last year — and substance abuse, are only part of the health projects of the MSMA auxiliary.

In the political arena, the recent passage of **Senate Bill 663** by the 83rd General Assembly of the State of Missouri and the signing by Governor Ashcroft was no accident. It was the cooperative effort of many throughout the state. Missouri was the first state to address professional liability by head to head — vis a vis — confrontation and negotiation among the health provider, insurance and trial attorney. The terms were negotiated down to all dotted i's and crossed t's. Many feel it will be a model for other states. Most feel it is only the end of the beginning in necessary tort reform. The lesson to be learned is that communication, even with those of contrasting views, can lead to the solving of a problem. It is planned to continue these discussions of mutual concerns on a regular basis.

If for no other reason to be politically active, the recent 20 year celebration of the passage of Medicare legislation should be incentive enough. Today the impact of Gramm-Rudman-Hollings, better known as Grambo, on health programs should open your ears and eyes to the political process. The planned full cut program on NIH, CDC, FDA, and Health Block grants will have a significant effect on medicine in the future. It also reduces Medicare payments by 1% this year.

How does a physician become politically involved? If he does nothing other than join the PAC's — MMPAC and AMPAC — he will contribute.

This year marks the 25th anniversary of AMA's bold entry in to the world of politics — AMPAC. "Politics isn't my business" was the most frequent response by physicians then. The number one challenge faced in 1961 was convincing doctors they belonged in

H. Peter Ekern, M.D.

the democratic process. Many believed politics was beneath the profession, but a majority finally were convinced that physicians had to become politically involved or else. Since then many others have formed PAC's to follow our lead. AMPAC is the largest professional association PAC in the U.S., for just $29 average contribution. These funds then are contributed on a targeted basis to selected candidates. The decision of which candidates receive funds is determined by a committee of volunteers who spend hours going over requests, voting records, and recommendations from physicians in the local community and assessing political intelligence.

On April 11, 1984, there was a critical vote in the U.S. House of Representatives. The issue was Mandatory Assignment. It would have frozen what Medicare pays doctors for treating elderly patients in the hospital; mandated that physicians accept Medicare assignments, and force hospitals to deny physician admitting privileges unless they accept Medicare assignments. The AMA already had a voluntary fee freeze but physicians could not accept a freeze tied to mandatory assignment. It became a front page story across America. When the speaker called for yea's and nay's, the nay's won, and organized medicine's position had persisted.

Other ways to become knowledgeable and involved are political education seminars, campaign management school, and the AMPAC National Political Education Conference. Participation '86 is an effort to guide individuals in to the decision-making positions in the political party of choice. As state and county party chairmen, precinct captains, finance chairmen and treasurers continue to make decisions crucial to election outcomes, there is a vital role for physicians, spouses, and families.

Our own Key Contact Program, the weekly Physician Involvement Program in Jefferson City, and the Physician of the Day Program by the Missouri Academy of Family Physicians, are excellent. Probably the best way to communicate well with your representative is to sit down and tell him what your current problem is and thus help gain an understanding at the grassroots. One other good way is to become a candidate. There is no physician in the Missouri Legislature.

Larry Freshnock, Director of the AMC Survey and Opinion Research Unit, tells us that physicians are no longer held in high esteem by the public. His survey demonstrated that the degree to which the public perceived cost as the main problem with medical care had increased from 55% in 1982, to 68% in 1984. At the same time, 86% thought that health care costs could be reduced without affecting the quality of care. The degree to which the public felt that physician fees were reasonable fell from 52% in 1982, to 27% in 1984. The same drop took place in the total time perceived that physicians spent explaining things. At least 70% felt physicians are overpaid and 71% felt physicians are up to date on the latest medical advance in technology. An even brighter note is that 85% have trust in "my doctor" and only 51% of physicians in general.

Roger Simon of the *Baltimore Sun* says there is a change in the perceived relationship of the physician — from the heroic perception, very high on a pedestal, as a Marcus Welby — to the troubling image now as in *The Verdict* and *Hospital*. Today the physician is consumed with economical issues, using buzz words such as DRG, HMO, PPO, and PRO. There is a double standard. Others may speak of profit, capital, wealth, but physicians may not. They, the public, do not want their view of doctors to be a commercial one, but a doctor who cares, not based on a financial but a caring relationship. They still want a doctor they can look up to, but one who is still within reach.

I am reminded of my last obstetrical patient, a young woman who had two miscarriages, yet was to carry this baby to term. Never did she come to the office without her husband or without her list of questions, and to be reassured all was well. They were a delightful couple and fortunately all was going well. There were also many phone calls when something seemed to concern Leslie. Mike frequently called, too. This was the first grandchild on both sides. As labor began, late one evening of course, I spent the time monitoring her very closely. It became obvious as time wore on that she was falling behind the labor curve, and would probably wind up with a section. I called my OB consultant who agreed, so we preceeded to do a C-section. All this time the question and answer session persisted. A beautiful, healthy, Apgar 9, 7 lb. 13 oz. girl appeared. At that time Leslie said, "Thank you, Doctor, for all you have done for

Newly-installed MSMA president Dr. Peter Ekern presents a plaque to Dr. Walter German commemorating his year of service to the Association as president in 1985-86. This presentation took place during the installation ceremonies at the 128th Annual Convention in St. Louis.

us. If you had not cared for us I don't think we could have made it through." This heeds the advice of Francis Peabody, who wrote in 1927 in the JAMA, "One of the essential qualities of the clinician is interest in humanity, for the secret of care of the patient, is the caring for the patient."

The erosion of public image may accelerate in the coming years. The transformation of medical science technology, the changing profile and concern of the American population, the growing number and increasing competition of doctors, the internal fragmentation of medicine and health profession more generally, and the growing involvement of government and corporate authority will all affect the practice of medicine.

Cost control efforts, whether inspired by government or the profit motive, will contribute to the tensions between doctors and patients, since each involve modification of basic and valued traditions of the doctor-patient relationship.

The challenge is to protect and even promote the ethical basis for medical care. Trust is the by-word and not to have the feeling doctors are too interested in money.

The future for physicians may not seem as inviting as in the past; however, the American Public will continue to support a generous medical care system.

The future excellence and future position of the medical profession in the state lie within the medical profession and its individual members. We expect an even closer relationship with our patients as they are better informed, allowing more time to explain the disease we suspect, the treatment we prefer, and the outcome we expect.

As Harrison Rogers, President of the AMA, so aptly stated, "That when the doctor and the patient are face to face, the only thing affecting their relationship is the doctor's compassion and his ability and desire to help the patient, without consideration of other circumstances, and the patient's trust and confidence in the doctor's ability. Nothing else counts, not insurance coverage, practice setting, form of practice, nor method of payment. Those things are irrelevant to the doctor-patient relationship."

Now how do we, as Missouri physicians, go about doing this? We get back to basics, we stop making mistakes, we weed out the incompetents. We quit placing high-tech machines between our patients and ourselves to the detriment of time spent with our patients. We can get rid of the idea that medical information will be misused. There is a big public appetite for health news. Get out of your office and get busy projecting an image that says "WE CARE." Doctors must constantly reach out and get more involved. The physician image may never return to where it was, but we can keep it from growing worse.

This evening I have emphasized several areas that are Right About Medicine in Missouri. The early role of St. Louis in organized medicine, the emphasis on women in medicine and their leadership positions, the appropriate use of the democratic political process in the advocacy role for our patients, and the need for Missouri physicians to be active in all phases of citizenry.

We must remain truly our patient's advocate as we continue to be compassionate, concerned and dedicated physicians.

Let me say in closing that I am very grateful for the honor and responsibility you have given me. I will look forward to visiting with as many of you as I can in my year in office. ■

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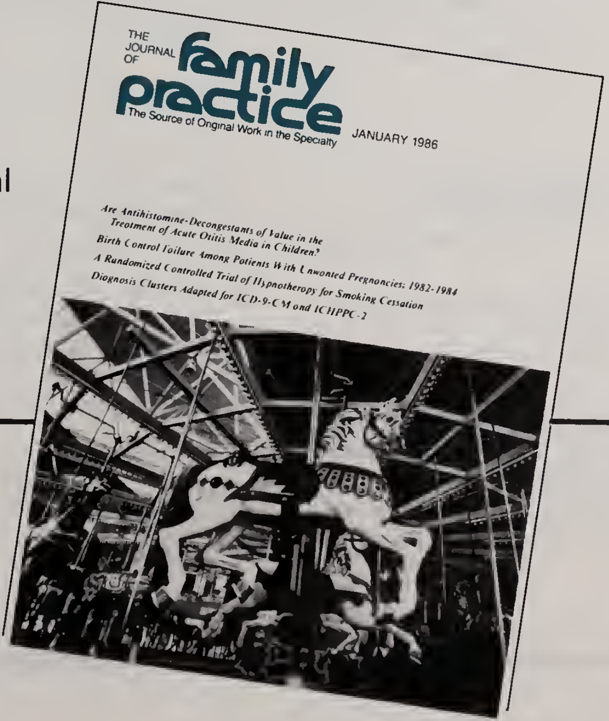

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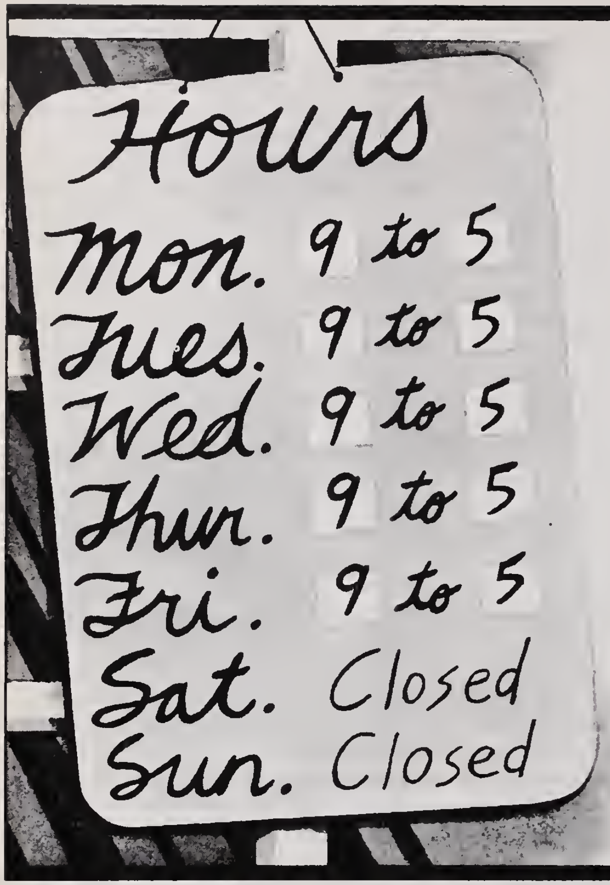

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Report of the AMA Auxiliary

I thank you very, very much for this brief time on your busy agenda. I know how many very important things you are going to be addressing at this meeting and I appreciate the opportunity of having these few minutes preceding all of that activity. Because it not only gives me a chance to affirm with great enthusiasm the programs of the Missouri Auxiliary, but then finally to share a few thoughts about what the National Auxiliary is doing right now.

But, also, it allows me time to thank you personally for your magnificent support of the last two years. This support has been generous, it has been warm, it's been impressive, and it points up what Bill and I have known for a long time, and I think that now, the rest of the nation knows — that the Missouri State Medical Association and its Auxiliary are certainly top of the line. We love it!

I also would like you to know that in addition to this wonderful tangible support that you have given, I also feel that you have given me a series of extremely valuable but intangible advantages. Let me explain:

I feel that you have offered to me the advantage of your example. I think that Dr. German's remarks certainly pointed that up. This kind of strong ethical posture and extremely hard work have been a powerful teacher for me and a source of motivation.

Secondly, I think that you have also offered the advantage of your shared convictions with me which have made almost all tasks lighter because I, too, as you, believe and am committed to the causes of this profession and to the cooperative efforts that certainly lend us strength.

Finally, you have given to me the advantage of participation, which has always been freely offered by the Missouri Auxiliary. It has been, I think without exception, an enlightening and enriching experience from start to finish.

For all of these things, both tangible and intangible, I thank you. I remain most humbly grateful and I thank you from the bottom of my heart.

Mary Kay McPhee

Secondly, let me move to what the National Auxiliary has been about this past year. I would like to share one area of activity on which we have been focusing and that is the cooperative alliance between the medical societies and medical auxiliaries.

This has been a recurring theme for those of us who have been traveling around the states and the counties as representatives of the American Medical Association Auxiliary. Because we firmly believe that our two groups working side by side in team effort can succeed in positively addressing a good number of the varied issues that face the medical profession today. So we emphasize ways in which physicians and their spouses can offer their different and their complementary skills in projects that work for our common goals.

Accordingly, we have urged our Auxiliary members to become as knowledgeable as they possibly can about the issues, to step up their activity in legislative and public arenas to become aware of their responsibilities both personally and as a member of this organization so that they will be increasingly well prepared to assist and to supplement your activities — in phone banks, in the legislative arena, in grass root support for PAC — but most importantly in community health programs.

As you know, for decades Auxiliary members have been working in the community to provide public awareness and active proof of the fact that physicians as individuals, physicians as family members, and as members of this profession are genuinely concerned about the people, their health, and their well-being.

The medical auxiliaries are known in the community as organizations that provide caring health promotion programs and they are also known as organizations that collectively raise and contribute nearly two million dollars a year to local community health causes.

Now, these are very visible at-home dollars. This money is raised apart from and in addition to a yearly contribution of a like amount or another two million dollars for medical education through AMA-ERF.

These kinds of community programs are areas in which Auxiliary members really have a lifetime of experience. They actually show how the multiple skills of our members and a large measure of the professional expertise can be put into play.

The point that I would like to make to you right now is that Auxiliary members do know the issues that concern physicians and why they are concerned about these issues and they know how to get their point across effectively to the public.

I hope that you will agree that there is not enough money in the world to buy the kind of public relations that physicians' spouses are capable of providing by demonstrating this kind of caring concern in joint effort by your side.

We are a legitimate segment of the medical network. We are committed to helping implement the goals of your county societies, certainly of this state organization, and of the American Medical Association.

We are the volunteer arm of organized medicine and yet, even with all of that, I believe that we remain a relatively untapped resource and powerhouse for many of you.

Recently one state executive said: "The Auxiliary is probably the single most unused asset of American medicine." Then he added, "Often it has been the victim of organizational

Continued on page 404

Mrs. William R. McPhee

■ AMA Auxiliary Report,

continued from page 403

apartheid because it is simply looked at benignly by the Association."

I ask you to think about that and think where you are with your own county organization. Basically, when you have asked, we have performed. We have produced real results that we look to with pride. But we know, right along with you, that there is much more to be done.

Working together I feel that we have almost an unlimited capacity to make the kind of an impact we want to make, to make that impact when we want to make it, and in the way that we would like to make it.

We thank you very deeply for all of the support you have given. I hope this kind of support that you give your county medical auxiliaries will continue, and I certainly hope that it's going to grow, because I believe that the winning team of the Medical Auxiliary and Medical Society can produce active, tangible results. It will if each one of you as the top elected leaders and the respected members of your county societies will take the responsibility to help see that this is so.

I hope that you will examine the opportunities and think about it and make a decision to help enhance this kind of partnership between our organizations at the county level, where your very own personal words of encouragement will have positive and visible results. Thereby, we can make the positive impact that we are capable of making and do it today.

Once again, let me thank you personally for all the confidence that you have shown in me and the magnificent support that you have given over the last couple of years.

I certainly look forward to visiting with many of you personally in the next few days as you continue deliberations. I wish you well as you address the issues of this House. Thank you so very much.

■ President's Page,

continued from page 365

37% of Iowa's hospital births. Herman Hein stated in the April 11, 1986, JAMA; "Small community hospitals in Iowa provide accessible maternity services to a large segment of Iowa's rural population. If these services were no longer available the quality of perinatal care may suffer and costs to patients surely would increase. This data is relevant to many states and regions of this country." He went on to say, "federal and state officials would be well advised to carefully consider the value of small hospitals before they allow current financial restraints to force closure of these facilities." This serious matter of declining maternity services in Missouri is to be discussed by each of the associations and a plan of action formulated.

As you can see, the need for close, careful and continued dialogue among these associations is vital to assure continued high quality and cost effective health care for all Missourians. ■

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Report of the Auxiliary

It is indeed a pleasure to represent the Missouri State Medical Association Auxiliary here this morning. It's with great pride that I report to you that your Auxiliary has added to its already impressive accomplishments in serving others, in improving the quality of life for the citizens of Missouri, and in representing you, the physicians, as the volunteer of medicine.

You have just heard from Mary Kay McPhee, President of the AMA Auxiliary. She has set a pace and served as an example for all Auxilians throughout the nation, and we are so tremendously proud to call her our very own.

Creative, successful, innovative, and informative are but a few of the adjectives which could be used to describe the myriad of projects which have been conducted throughout Missouri this past year. From CPR training to child abuse prevention; from health fairs to halfway houses; from organ donor awareness programs to kids in safety seats, your spouses are an active, vital force in the community.

Promoting awareness and support of the impaired physician and family has been a primary goal for the Auxiliary this year. We truly appreciate Dr. German's appointment of an auxiliary member to this important committee and hope we will be able to serve in the future.

Another goal this year concerns older Americans. Materials regarding nutrition, physical fitness, safe use of medicine, and intergenerational programming have been used by county auxilians to serve the special needs of this growing segment in our population.

On a state level, pamphlets, posters, buttons, and brochures have all been distributed, conveying the message "Don't Retire From Life."

The third focus of the Auxiliary this year has been in the area of organ donor awareness. Working with local Lion's Clubs, all counties in Missouri have been urged to collect discarded eyeglasses, frames, and lenses. Once collected, the frames and lenses have been submitted to various points in needy countries, where ophthalmologists have determined the individual needs of patients.

"Chris" Bohigian

The legislative process has been another area of active participation for the Auxiliary this year. We have attended House and Senate hearings on Tort Reform and the Optometry bills. Letters and phone calls to legislators have been an effective means of communication as has attendance at Legislative Appreciation dinners held throughout the state.

Governor Ashcroft proclaimed March 30 as Doctors' Day in your honor. Record attendance at our annual Day at the Legislature last month provided an invaluable opportunity for Auxilians to communicate with their legislators in an informal setting.

Our support of the American Medical Association Education and Research Foundation and the Missouri State Medical Foundation continues as always with the dedication and the enthusiasm of our members. From international dinners to Christmas Sharing Cards, Auxilians continue to raise record amounts of money every year. This year has been no exception.

Each of you this morning will find at your table a large white envelope. Inside that envelope is a bright pink invitation. We hope you will read it over carefully and that you will support the No-Show Show-Me Social, an event provided for the overauctioned, overdinnered, and the overdone donor.

All you need to do is make out a check, a 100% tax deductible check, to either the AMA-ERF or the Missouri State Medical Foundation.

One of the ladies in pink in the lobby will be absolutely thrilled to pieces to take your check and your participation will be recognized by wearing a bright ribbon. This truly has been the biggest event in the history of Missouri State Medical Association and the Auxiliary NOT to be held. We sure hope that you will all miss it.

In a changing society our membership, as that of most organizations, has been affected. Many members are facing new career choices and opportunities that vie for time and attention. We as Auxilians once again request your assistance in encouraging your spouses to join the Missouri State Medical Association Auxiliary. Working together as a team, we are better able to achieve our mutual goals.

One year ago the Auxiliary members donned their HATS. They pledged to help Auxilians to succeed and we embarked on a journey down the road to success. That ever popular road sometimes has been under construction but travel on we have. With your support and your encouragement we have truly enjoyed every moment of our journey.

I would like at this time to introduce Gayle Vilmer, who will be taking over as president this year. I know she will continue on our successful journey.

I deeply appreciate the many kindnesses that have been extended to George and myself this year. It has been a memorable and rewarding year for me and I think a productive one for the Auxiliary.

On behalf of the Missouri State Medical Association Auxiliary, I wish you a most successful 128th Annual Convention. Thank you. ■

Mrs. George Bohigian

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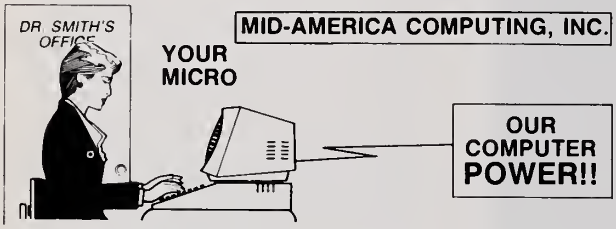
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Missouri State Medical Foundation

Annual Meeting
St. Louis Marriott Pavilion Hotel, St. Louis
Friday, April 4, 1986

The Annual Meeting of the Missouri State Medical Foundation was called to order by Dr. Miles C. Whitener, president.

The minutes of the 1985 Annual Meeting were approved as published in *Missouri Medicine.*

Dr. Gary A. Dyer recommended that Dr. Pat Harr be appointed to fill the expired term of Dr. Albert D. Cross and this decision was referred to the Foundation's Board of Trustees. Dr. Christopher H. Jung was reappointed to serve a five-year term. The ex-officio member of the Board will be Dr. H. Peter Ekern, president of the Missouri State Medical Association.

There being no old business, as new business Laurel Ellison announced that the Foundation computer was installed at the MSMA Office in Jefferson City. Williams-Keepers is designing a program to figure loan repayment schedules.

A discussion was held on the MSMA dues increase and what would happen to the Foundation $10 assessment. Following this, a motion was made to have a reserve ratio of one to five meaning for every $5 in loan there is $1 in reserve. This passed and was adopted.

In addition, it was decided to investigate the possibility of raising Foundation loans from $2000 to a greater amount.

There being no further business, the Annual Meeting was adjourned.

Board of Trustees
St. Louis Marriott Pavilion Hotel, St. Louis
Friday, April 4, 1986

The meeting of the Board of Trustees of the Missouri State Medical Foundation was called to order by Dr. Miles C. Whitener, president.

The following slate of officers were nominated from the floor and were elected by acclamation:

President — Miles C. Whitener, M.D., St. Louis
Vice-President — Gary A. Dyer, M.D., St. Joseph
Secretary-Treasurer — Robert H. Tanner, M.D., Jefferson City
Assistant Secretary — Laurel Ellison

It was noted that the MSMA Auxiliary should be recognized for their contribution to the Foundation. It was suggested that a presentation of appreciation be given each year from the Foundation at the MSMA Annual Convention.

There was considerable discussion of E. F. Hutton's Deferred Giving: The Charitable Remainder and the Wealth Replacement Trusts as presented by Mike Grimes, Vice President of E. F. Hutton and State Director of the MSMA Retirement Plan System. After elaborate discussion, it was voted by the Board to endorse this trust.

The Board then approved Dr. Pat Harr to replace the expired term of Dr. Albert Cross.

There being no further business, the meeting was adjourned.

128th Annual Convention Exhibitors

American Business Machines
Springfield, Mo.

Automated Medical Systems Corp.
Kansas City, Mo.

Blue Shield-St. Louis & Kansas City
St. Louis, Mo.

Boehringer Ingelheim
Ridgefield, Connecticut

Burrough's Corp.
St. Louis, Mo.

Cycare Systems
Dubuque, Iowa

Diabetic Supply & Home Health Care
St. Louis, Mo.

Dodson Insurance Group
Kansas City, Mo.

Encyclopaedia Britannica USA
Chicago, Illinois

Fred S. James & Co. of Mo., Inc.
Clayton, Mo.

Glaxo, Inc.
Research Triangle Park, North Carolina

Hoechst-Roussel Pharmaceuticals, Inc.
St. Charles, Mo.

Insurance Corporation of America
Houston, Texas

Integrated Business Systems
St. Louis, Mo.

International Medical Electronics, Ltd.
Kansas City, Mo.

Johnson's Inc.
Shawnee, Kansas

The Key Company
St. Louis, Mo.

J. B. Lippincott Company
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Evansville, Indiana

Medical Defense Associates
Springfield, Mo.

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Medicare Part B/General American Life Ins. Co.
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Jefferson City, Mo.

Missouri Department of Health
Jefferson City, Mo.

Missouri Department of Mental Health
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MOMEDICO
St. Louis, Mo.

Missouri State Medical Association
Jefferson City, Mo.

MSMA Retirement Plan System
Clayton, Mo.

Parke-Davis
Morris Plains, New Jersey

Pennwalt RX
Pickerington, Ohio

Riker Laboratories/3M
St. Paul, Minnesota

Risk Control Associates, Inc.
Springfield, Mo.

W. B. Saunders Company
St. Peters, Mo.

Schering Laboratories
Fenton, Mo.

Smith Kline & French Laboratories
Philadelphia, Pennsylvania

Social Security Administration
Kansas City, Mo.

Southern Medical Association
Birmingham, Alabama

St. Louis District Dairy Council
St. Louis, Mo.

The Upjohn Company
Kansas City, Mo.

Upjohn Healthcare Services
St. Louis, Mo.

Wyeth Laboratories
St. Louis, Mo.

Summary of Council Minutes

Meeting of April 14, 1985
Hyatt Regency, Kansas City

Dr. Larry G. Piepergerdes was elected Chairman of the Council and thereby became the presiding officer. Dr. T. J. Cooper was elected Vice-Chairman of the Council; Dr. Berry Ivy was elected MSMA Secretary, and Dr. Jay Meyer was elected MSMA Treasurer.

The Council voted to allow the MSMA Budget and Finance Committee to purchase up to $100,000 of MOMEDICO subordinated notes.

The body also rescinded a previous recommendation that the assets and liabilities of the Missouri Health Data Corporation be transferred to the Missouri Hospital Association.

Meeting of June 1, 1985
Holiday Inn, Lake of the Ozarks

It was reported that, because of the number of direct AMA members in Missouri, the MSMA has lost approximately $17,000 in dues. Recruitment of students and residents is the weakest area. Unified membership could correct many of these problems, and Councilors were encouraged to explain the benefits of unified membership to their districts.

A Building Committee was appointed by Dr. Piepergerdes. An ad hoc committee on the new "sunsetting" resolution for MSMA policy was also appointed. Appointment of Councilor-Advisers was also made.

The Council approved sending a letter to Kansas City Blue Shield objecting to the wording of new physician contracts and asking for a deadline extension for further study of the contracts. The matter was also referred to the Action Committee to Negotiate with Third Parties and Hospitals for further study.

Dr. Walter A. German, President, made additional appointments to committees and commissions.

Resolution #16, A-85, was discussed. Speaker of the House Dr. Barbara Buchanan reported to the Council that this resolution was never finally acted upon. The body decided to approve in principle the resolution, which calls for the provision of financial assistance to Medicare outpatients who must travel far from home for diagnostic workups and must take overnight lodging. The actual reimbursement mechanism, however, should be left to social services agencies.

The Budget and Finance Committee reported that the MOMEDICO debentures were to be purchased no later than June 6. Chairman Dr. Meyer also asked Council approval of a change in management for the MSMA Employees Retirement Fund. The Council accepted the report.

A report from the Committee on the Impaired Physician was approved, including a provision for a change of the committee's five members to an unspecified number, who would serve three-year terms. Constitutional changes were referred to the Committee on Constitution and Bylaws.

Dr. Buchanan, Speaker of the House, delivered remarks that centered on several discrepancies between the actual operation of the House of Delegates and the written procedures in the MSMA Constitultion and Bylaws. Her recommended changes, which were referred for proper language to the Constitution and Bylaws Committee, included election of officers by voice vote, report of the Nominating Committee at the second session of the House, and election of the President-Elect with the rest of the slate.

Following a report from the Commission on Continuing Education and Health Manpower, the Council voted to provide travel expenses for in-state speakers at the Convention, provided they are MSMA members.

The Council also approved the discontinuation of MSMA's recording of CME data for MSMA members. In accepting the report, the Council also approved the inclusion of one of the following topics in the 128th Annual Convention's general session: Medicine and the Media; Malpractice Issues; Alternative Health Care Delivery Plans; Legislation and Medicine.

The Independence Sanitarium and Hospital received reaccreditation for four years.

A report from the Publication Committee and *Missouri Medicine* Editorial Board was accepted. The Committee, among other actions, rejected the idea of publishing disciplinary actions from the Board of Healing Arts.

Councilors voted to encourage other MOMEDICO stockholders to increase their subscriptions of stock in the company.

It was reported that MHDC was no longer able to function in its data-collecting capacity. The Hospital Industry Data Institute (HIDI) will take over the task of data collection. The Council voted to make MSMA a sponsoring organization of the new agency.

The AMA delegates were instructed by the Council to report their votes on an AMA dues increase back to the executive body. The delegates were further encouraged to oppose any such dues increase.

The possibility of quarterly or semi-annual billing for MSMA dues, as well as payment of dues by credit card, were referred to the Budget and Finance Committee for further study.

Meeting of August 24, 1985
Holiday Inn, Lake of the Ozarks

The Council approved a pair of Practice Management Workshops to be held in the spring.

The possibility of using doctors' office personnel in the tort reform effort was also approved for further study.

Councilors agreed to write letters in support of Dr. William Bradshaw as dean of the Missouri University School of Medicine.

A motion to publish the final actions of the Missouri Board of Healing Arts in *Missouri Medicine* was carried.

Dr. German's remarks before the Council included a request for a dues increase in the future. An expansion of programs, including the push for legislative reform of malpractice laws, will require additional funds for success. The Budget and Finance Committee was charged with determining an appropriate increase.

The Council heard an update on the malpractice tort reform program. In particular, a detailed plan for communicating medicine's position to lawmakers and MSMA's alliance with MHA and MAOPS were discussed. The plan, along with a suggested appropriation, were approved.

A report on the Missouri PRO included a lengthy explanation of several new proposals for PRO operation. The changes included 100% preadmission review; small area analysis; outpatient review; cost and day outlier changes; elimination of code editors; different sampling methods; abolishing waiver of liability; additional date from fiscal intermediaries on submitted claims; abolishing quality objectives; review of HMOs.

A report of the Building Committee was approved by the Councilors. This report included the recommendation of a "creative real estate transaction" involving MSMA headquarters and neighboring offices.

The Commission on Medical Economics' report was accepted. Among the actions and recommendations made by the Commission were final decisions on 1985 resolutions, and a recommendation that the MSMA oppose the imposition of DRGs on physicians.

Following a report from the Committee on the Impaired Physician, which gave a comprehensive picture of the programs and objectives of the Committee, the Council gave its approval to the Committee's search for a part-time medical director with a salary of $35,000 to $40,000.

AMA candidates Dr. George Bohigian, Dr. Hugh Stephenson, and Dr. Hubert Ritter — who is running for president-elect — were given full support of the Council.

The Council also accepted a report from the Commission on Public Affairs. Recommendations included a new media relations program, action on a 1985 resolution, and a brochure on office waiting time.

Meeting of December 14, 1985
Ramada Inn, Jefferson City

The Council recognized the contributions of Mr. Eddie Hirsch, retiring after nearly 40 years as executive secretary of the Buchanan County Medical Society.

Councilors approved a stock resolution concerning the transfer of the Association's pension and investment security plans to a new fund manager.

It was reported that in 1985, the Association lost an estimated $60,000 in dues because of direct memberships to the AMA.

The budget for 1986, totaling $1.2 million, was approved as presented by Dr. Jay Meyer, chairman of the Budget and Finance Committee.

The committee was concerned that future expansion of programs and services would be impossible without a dues increase. Members of the Committee recommended an increase of $150, or a proposed $300 dues amount. Following some discussion, the Council approved the proposed increase to $300, effective January 1, 1987.

Approval was given to a one-year accreditation of Golden Valley Memorial Hospital, Clinton.

In his report from MOMEDICO, Dr. Richard Bradley noted that the company had been able to obtain necessary reinsurance from Kemper Company, but had been required to shift from occurrence to claims-made coverage. He reported that to his knowledge, MOMEDICO is the only company in Missouri that is offering coverage in excess of $1 million.

It was reported that the first Intervention Seminar held by the Committee on the Impaired Physician was well attended. The Committee also presented a recommendation that the MSMA, together with MAOPS, the Dental Association, and the Pharmaceutical Association, meet with the state Department of Social Services to resolve problems surrounding the termination of Medicaid provider status.

It was reported that the Committee to Preserve Health Care, meeting to negotiate an agreement on malpractice tort reform, had reached an agreement on November 27, 1985. Parties to the negotiations included MOMEDICO, Medical Defense Associates, the Missouri Hospital Association, MAOPS, MSMA, and the Missouri Association of Trial Attorneys. Legislation containing the principles of the agreement would be presented to the 1986 General Assembly. The Council accepted the Committee's report.

Dr. John Matthews, representing the Committee on Legislative Affairs, reviewed a number of bills that will be considered during this legislative session. He also asked that information about physicians who have been directly affected by the malpractice situation be forwarded to the Committee. The Council accepted his report.

The Commission on Interspecialty Medicine report was given by Dr. Robert Tompson. He noted the Commission had recommended that MSMA Constitutional guidelines be more strictly followed in selecting in-state physicians as speakers at Annual Convention.

In discussing the issue of patient access to medical records, the Commission recommended that Missouri physicians follow AMA Judicial Council policies. Commission members also discussed several 1985 House of Delegates resolutions that had been referred. The Council accepted the report.

Laurel Ellison, MSMA staff, presented a report from the Missouri State Medical Foundation. The Foundation board changed the interest rate structure for medical student loans to a 4%/10% structure, largely in the interest of computerizing records.

The board also recommended that the $10 per member assessment to fund the Foundation be extended an additional three years. The Council, in accepting the report, amended this extension to five years.

The MSMF Board also voted to change loan contract wording to avoid long delays in loan repayment.

Board members had suggested that loan recipients in default should have their names published in *Missouri Medicine*. After some discussion, the Council agreed that prior to any publication, each physician in default should be contacted by at least two other MSMA members.

The Council heard and accepted a report from the Committee on Constitution and Bylaws, concerning Constitutional changes that create a Resident Physician Section, change the number of members on the Committee on the Impaired Physician, alter the written procedure for election of officers, and implement unified membership in the AMA and MSMA. These amendments will go before the 1986 House of Delegates.

Councilors voted to create a committee to look into and report back on the possibility of an MSMA-sponsored statewide IPA/HMO.

Meeting of February 1, 1986
Hilton Inn, Columbia

Councilors approved a party of five to vote MSMA stock at the MOMEDICO stockholders' meeting. A second group of three was authorized to vote at the MSMI meeting.

Dr. German's report was accepted, including his suggestion that the President, President-Elect and Council Chairman be required to visit, among them, each of the component medical societies during their term of office.

Dr. German also recommended the formation of a committee to look into the operation of Missouri's PRO. A committee of four was appointed by the Council Chairman. Their report will be disseminated to the membership.

Following a report from the Legislative Affairs Committee, the Council voted to support legislation requiring hospitals to discuss organ donation with the families of potential donors.

Councilors also approved endorsement of a program on head and spinal cord injury education and prevention.

Appreciation awards were approved for presentation to a group of Missouri state legislators.

After hearing a request from the Missouri State Surgical Society asking waiver of the MSMA bylaw requirement that convention program speakers be MSMA members. Councilors voted to uphold the bylaws.

It was decided to prepare a resolution and report on an MSMA-sponsored HMO/IPA.

Drs. Jordan Burkey and Donald Sessions were reappointed to the editorship and assistant editorship of the journal. A request for additional staff time for the journal was referred to the Budget and Finance Committee.

Following the report of the Commission on Medical Economics and Third Party Medicine, the Council approved the modification of the study of alternative health care plans to a summary format. The Council also accepted the recommendation that a way be found to monitor or register these alternative plans. This could be accomplished via MSMA-supported legislation or an independent agency.

Councilors approved a resolution asking for a dues increase to $300. Physicians in their first year of practice would pay $150, and residents' dues would go up to $20. The resolution goes before the 1986 House of Delegates.

The resolution seeking a five-year extension of the assessment for the Missouri State Medical Foundation was tabled pending receipt and review of the latest Foundation financial statement.

The report of the Ad Hoc Committee on Sunsetting, including 13 policies recommended for retirement, was accepted.

A program designed to help mediate hospital medical staff-hospital disputes was given Council approval.

Councilors also accepted an offer from the MSMA Auxiliary to help in the AMA campaigns.

Meeting of April 2, 1986
Marriott Pavilion, St. Louis

The Council approved sponsorship of a workshop suggested by Mrs. Gayle Vilmer, President-Elect of the MSMA Auxiliary. It will train physicians and auxilians in actual "hands on" work in political campaigns and be held June 4.

The following dates were approved for future Annual Conventions: April 2-5, 1987 at Tan-Tar-A at Lake of the Ozarks; March 23-27, 1988 at the Hyatt Regency in Kansas City.

The Council approved the following changes in MSMA-sponsored major medical insurance: 1) Limitation on private duty nursing service to $75 per 8-hour shift with maximum of a 90-day period; 2) Add ambulatory surgical benefit; and 3) A second surgical opinion benefit. Also the program for members who are 65 and over was changed to a Medicare supplement plan.

Dr. Singleton reminded everyone present that they should be sustaining members of MMPAC.

Sandoz Pharmaceuticals will present an award to *Missouri Medicine* which will be accepted by Dr. Burkey. Mr. Cooper complimented Laurel Ellison on her contributions and announced that she will be leaving the Association to serve as Director of Public Information for the Department of Health.

The IRS will conduct an audit of the Association's 1983 operations beginning April 9.

MSMA has received its first good case under the formal mechanism for resolving physician/hospital disputes.

The following seminars will be sponsored by MSMA: "How to Get Started in Medical Practice," May 6-7, Kansas City, and May 8-9, St. Louis; "Medical Office Management Seminars," June 2-6, St. Louis; and "How to Improve Third Party Reimbursement and Coding," June 5, St. Louis.

The Council referred a proposed monitored treatment program outlined by Dr. John Mihalevich, Chairman of the Committee on the Impaired Physician, to the Budget and Finance Committee. They approved the name change of the Committee to The Physician Rehabilitation Committee.

Appointed by Dr. German to serve on the Publications Committee for 1986-87 were: Drs. Jordan Burkey, Chairman and Editor; Donald Sessions, Associate Editor; Donald Menchetti; John Layle; Jerry Templer; and Earl Schultz.

Dr. German asked each Councilor for one delegate's name from each Councilor District to serve on the Nominating Committee. He also asked everyone to discuss the need for the MSMA dues increase with their respective delegates.

Presenting the Auxiliary Report, Mrs. Bohigian announced a successful "Day at the Legislature," and that to date the Auxiliary had raised $15,000 for AMA-ERF and wanted to raise at least $10,000 at this year's "No-Show Show-Me Social."

Dr. Matthews gave his report on the Committee of Legislative Affairs, bringing the Council up-to-date on current activities in the General Assembly.

Dr. Rall requested more participation in the Physician Involvement Program. As Chairman of the "Key Contact" Committee, he reported that only 27 physicians, 8 students and one society executive had participated to date.

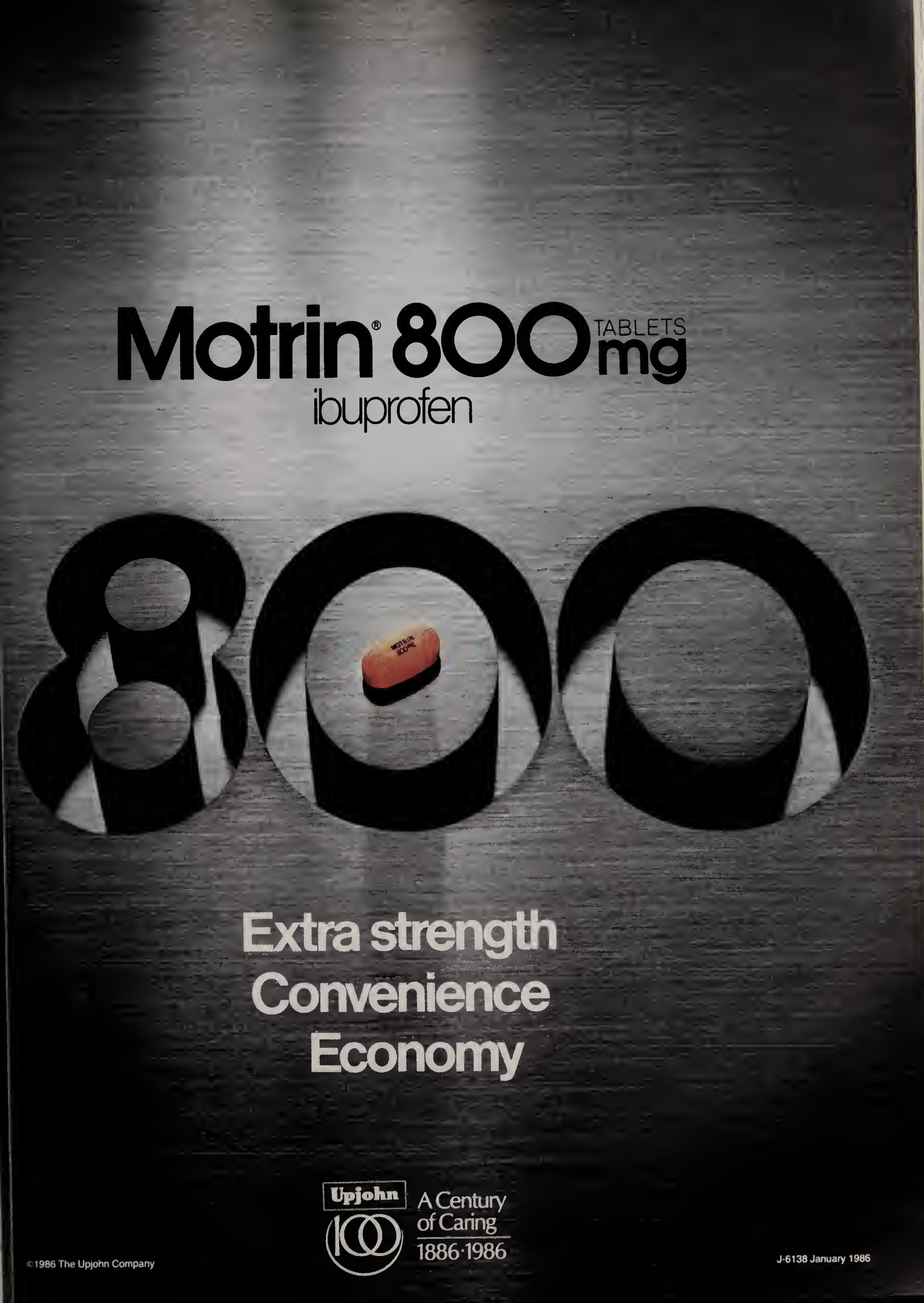
The Council voted to recommend a two-year extension of the $10 Foundation assessment as requested by Dr. Dyer, member of the MSMF Board of Trustees. If the House of Delegates passes the MSMA dues increase, then $10 of the dues increase will be allotted to the Foundation and the assessment dropped.

Speaker of the House of Delegates Dr. Buchanan asked everyone to inform their delegates of the Procedures of the House concerning the 13 late resolutions that were not included in the Handbook.

The Council approved a $27,500 financial commitment by MSMA to a public education program to inform Missouri citizens of the critical nature of the professional liability situation. Dr. German presented this report from the Committee to Preserve Health Care. ■

Correction

In "Rocky Mountain Spotted Fever in Missouri" published in the June 1986 issue, the fourth sentence in the first full paragraph in the left column on page 325 should have read: "Chloramphenicol is the drug of choice in children, at a dose of 50 to 100 mg/kg/day."



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J-6138 January 1986

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WHERE: *The Omni International Hotel in St. Louis Union Station*

WHAT: *The Midwest Clinical Magnetic Resonance Imaging Conference will be suitable for all physicians with an interest in this new imaging method. It is the first in the Midwest to focus specifically on clinical applications of the method as opposed to a summary of research results. In keeping with its focus, the conference will emphasize comparison with other accepted imaging methods. Registrants should expect to achieve a practical appreciation of the fundamental principles of MRI and its currently accepted applications in the brain, spine, body and extremities. Clinicians, faced with a decision among several imaging tests for a given problem, should anticipate an improved awareness of the relative merits of MRI. Radiologists faced with consultation and interpretive questions regarding specific MRI applications should expect to receive direction from this conference.*

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This CME activity is designated for 14.5 hours in Category I of the Physician's Recognition Award of the AMA.

Committee and Commission Reports

Commission on Continuing Education and Health Manpower

The Commission met on May 11, Holiday Inn, Lake of the Ozarks.

Commission members reviewed specialty critiques, noting that there were only two specialty organizations that did not sponsor scientific programs or a business meeting during the 127th Annual Convention.

To assist specialties in developing their program for the 128th Annual Convention, the Commission noted that Chapter II, Section 3 of the MSMA Bylaws states "No person in the active practice of medicine in the State of Missouri shall appear on the program of the Association unless he or she is a member of the Missouri State Medical Association." It was the recommendation of this Commission that this portion of the MSMA Bylaws be forwarded to each specialty for their observance and adherence in planning future programs.

Again, the Commission reviewed the present policy on providing honorariums to speakers that participate in the MSMA Annual Convention. It was felt that the honorarium of $200, plus expenses, for one out-of-state speaker per 90 minute scientific program was appropriate. It was also felt that the policy that instate speakers (MSMA members) should not receive a honorarium was appropriate; however, it was agreed that these instate speakers who were MSMA members should be reimbursed for their travel expenses. Program Chairmen are encouraged to call upon member physicians who have excelled in their specialty.

Recommendation: That MSMA provide travel expenses for instate speakers who are MSMA members.

The 127th Annual Convention attracted 570 members. These members may be broken down according to specialty, as follows:

Allergy — 10
Anesthesiology — 26
Dermatology — 20
Emergency Medicine — 1
Family Physicians — 85
General Preventive Medicine — 3
General Surgery — 70
Hematology — 3
Internal Medicine — 66
Neurosurgical — 12
OB-GYN — 59
Occupational Medicine — 5
Oncology — 1
Ophthalmology — 39
Orthopaedic — 19
Otolaryngology — 25
Pathology — 18
Pediatrics — 17
Physical Medicine — 5
Psychiatry — 23
Radiology — 30
Urology — 10
Other — 1
Medical Students — 22

On April 10, the MSMA Council requested the Commission on Continuing Education and Health Manpower to reexamine the policy whereby the MSMA acts as a record keeper for individual physician's continuing education credits to determine if more effective methods are available and to report back at the June Council Meeting.

In 1976, the MSMA initiated a recording program and is the only state recording CME activities. In order to record CME activities in a timely manner, it has become necessary to designate one staff member to do nothing but record these activities. This recording program is duplicating similar recording programs of other specialty organizations.

Recommendation: That MSMA discontinue the present format of recording members' CME activities and that MSMA encourage its members to maintain their own records regarding continuing medical education activities.

Recommendation: The Commission recommended one of the following topics for the Friday General Session during the 128th Annual Convention: Medicine and the Media; Malpractice Issues; Alternative Health Delivery Plans; Legislation and Medicine.

The proposal to revise the six categories of CME credit in conjunction with the AMA Physician's Recognition Award was discussed. This revision calls for consolidating the six categories into two categories — accredited and nonaccredited. This proposal was presented to the AMA House of Delegates for their consideration in June.

Members present discussed the mechanism to accredit institutions and organizations wanting to become a sponsor for CME activities and the process of reaccreditating these institutions and organizations. Each Commission member will be involved in the accreditation or reaccreditation process.

It was felt that this Commission should formalize a mechanism to determine the distribution of health manpower in the state of Missouri. This information would be of invaluable assistance to the MSMA Physician Placement Program.

Gary A. Dyer, *Chairman*
Olga M. Blair
Victor G. Clever
William D. Bradshaw
Hiremathada Jayanandaiah
George D. Comfort
James Youngblood
Thomas J. Hopkins
George X. Trimble
Raymond O. Frederick
Christopher H. Jung
Wilbur A. Mullarky
W. Wayne Boydston
Hugh Lundman
Mr. Mike Flynn, Student

Commission on Interspecialty Medicine

The Commission met on October 12, Marriott's Tan-Tar-A Resort, Osage Beach.

The Commission reviewed the plans that were being made for the upcoming 128th Annual Convention. Each specialty was encouraged to participate in the Annual Convention. The MSMA policy on honorariums for out-of-state speakers was reviewed, along with guidelines that specialties were encouraged to follow when selecting instate speakers for their scientific programs. The MSMA Bylaws state that "No person in the active practice of medicine in the State of Missouri shall appear on the program of the Association unless he or she is a member of the Missouri State Medical Association."

Commission members reviewed the provisions contained in the Emergency Extension Act of 1985, HR 3452, that was signed on September 30 by the President. This Act extended the Medicare freeze for another 45 days. The freeze on charges applies only to nonparticipating physicians. Those physicians who continue or have entered into participating agreements may raise their actual charges just as participating physicians were permitted to do before. Their reimbursement, however, continues to remain frozen.

Patient accessibility to medical records has received considerable attention as patients continue to request copies of medical records from their physicians. This is an area that has caused a great deal of concern among physicians. It was the recommendation of this Commission that Missouri physicians shall follow the policies as set forth in the AMA Judicial Council *Opinions and Reports.*

Concern was expressed regarding insurance companies forwarding copies of medical bills to patients stating the amount of coverage and also stating that the charges were excessive. In some instances, patients were encouraged not to reimburse the physician for the remaining balance. The Commission asked physicians that have experienced this problem to obtain copies of these bills and forward them to the MSMA for appropriate action.

The report of the Council on Medical Education regarding the Physician's Recognition Award was provided for information only to inform each specialty that the 1985 AMA House of Delegates adopted this report consolidating the six categories of continuing medical education credit into two categories.

One of the objectives of the Committee on the Impaired Physician is to obtain physicians from each specialty willing to serve as Intervenors. Each specialty was asked to take an active role in participating in the Impaired Physician Program. It was recommended that each specialty organization forward to the Committee on the Impaired Physician, names of members that would be willing to serve as an Intervenor on the Impaired Physician Program.

A summary of the MSMA activities as of October 12 regarding the problem of professional liability was provided to those present.

Two Resolutions were referred to the Commission on Interspecialty Medicine for consideration.

Resolution #17: "Support of Physician-Patient Relationship"

RESOLVED, that the Missouri State Medical Association reaffirms its position supporting and advocating the primacy of the physician-patient relationship at all levels of medical care and opposing the intervention of social and legal factors into this relationship, and be it further

RESOLVED, that the Missouri State Medical Association assume a leadership role in attempting to develop legislative safeguards which will protect the primacy of the physician-patient relationship.

It was the consensus of those present that MSMA has assumed a leadership role in developing safeguards which will help protect the physician-patient relationship.

Recommendation: That the Missouri State Medical Association continue its leadership role in developing legislative safeguards which will protect the physician-patient relationship.

Resolution #20: "Health Care Information Organization"

RESOLVED, that the Missouri State Medical Association take the lead in promoting the establishment of a freestanding, not-for-profit health care information and policy organization which would serve to link:

- citizen values and ethical beliefs with the resource allocation decisions of health programs.
- academic research with real-world service delivery problems.
- isolated data into broad conceptual "models" of the health care field.
- the stated goals of both public and private policies with their actual effectiveness.

The difficulties in developing another organization, free of special interest, to effectively address the delivery of health care were discussed.

Recommendation: That MSMA not adopt Resolution #20.

Michael S. Clarke, *Chairman*
Stephen C. Hamburger
Wayne B. Miles
James O. Alyea
Gary A. Dyer
Roger Willcox
James Campbell
George E. Mendelsohn
Gregory Starks
Joseph Giangiacomo

J. Regan Thomas
James M. Flynn
David L. Simon
Charles Kelly
Richard T. Quick
Dan T. Sullivan
Joseph A. Pinkerton
John T. Critchlow
James R. Wiant
Jay L. Milne

Commission on Medical Economics, Third Party Medicine and Governmental Relations

Commission on Medical Economics, Third Party Medicine and Governmental Relations met on July 13, 1985 and January 25, 1986 in Columbia, Missouri. The July meeting was concentrated on several programs presented by Mr. Vic Arnold, Division of Medical Services. The Commission requested the Division of Medical Services to concentrate on office visit fees for primary care physicians when considering fee schedules.

At the same meeting, the Commission agreed to take active steps to promote adequate compensation for our rural hospitals. Discussion was held and upon a motion it was agreed to urge the MSMA Council and members to oppose the imposition of DRGs and fixed fee schedules on physicians in Missouri.

The January meeting reviewed the fourth chapter of the indepth study of alternative health care systems in Missouri. Because of the volume, the study was modified for 1987 and it will be limited to a summary on the ongoing systems with a concentration of developing systems on an annual basis. Further, a motion will be offered to the Council to direct MSMA to acquire some legislative or administrative body to be a collective monitor of alternative health care system where information may be obtained.

Updates on all Medicaid and Medicare programs were reviewed by the Commission.

In further actions, the Commission felt that MSMA should become more involved with PRO activities. Discussion was held, and it was recommended that the Commission would request a second review from another area (PRO) and following such a review, an Ad Hoc group by MSMA with recommendations would be submitted to the Council for recommendation or action.

Resolutions and reports from the Council have been reviewed and recommendations submitted.

Richard L. Johnson, *Chairman*
George D. Flanigan
John Davidson
Joseph A. Kahn
Thomas R. Stubbs
Stanley S. Peterson
Howard H. Roberts
B. A. Moranville

Nicholas J. Colosi
C. C. Reynolds
Fred W. Hahn
Pierre W. Keitges
Arturo C. Montes
Frederick L. Thompson
C. R. Talbert
Michael Knudsen, *Student*

Commission on Public Affairs

The MSMA Commission on Public Affairs met July 20, 1985, at the Hilton Inn, Columbia, with Chairman Carl M. Myers, M.D., Platte City, presiding.

The Commission viewed current television public service announcements and heard a follow-up report on 1984 Commission recommendations. A report was also given on the sales of the various MSMA-produced brochures.

AMA Board of Trustees Report RR, accepted at the June 1985 AMA meeting, was reviewed. In discussing the 1985 MSMA House of Delegates Resolution No. 6, the Commission decided that AMA Report RR, coupled with the role the Public Affairs Commission has always assumed, fulfill the intent of the resolution. Resolution No. 6 called for the establishment of an MSMA public relations plan.

Practice marketing workshops, offered by Conomikes and Associates, were approved for organization by the MSMA. Three one-day sessions were planned.

A new project, consisting of an annual mailing of MSMA officers' and headquarters staff names and telephone numbers on Rolodex cards, was approved. Cost of the "media guides" is approximately $200 per year.

The Commission members also gave approval to a new format for Medical Messages, the monthly mailing, and to production of radio public service announcements with sound effects and dramatics to enhance listener appeal.

A new "Shorts & Fillers" addition to the Medical Messages mailing was also approved. Production of these items — short, one-column newspaper fillers on health topics — began in November 1985. The new radio spots were first released in the third quarter of 1985, and the new Medical Messages format was instituted in November 1985.

A new brochure for physicians, focusing on office waiting time problems and solutions, was granted approval for production. This brochure, not yet distributed, was completed in September 1985.

Expressing serious concern about Missouri's malpractice crisis, Commission members strongly backed the production of materials on malpractice tort reform, to be disseminated to the public.

A media key contact program for establishing and maintaining good media relations was also approved.

Carl M. Myers, *Chairman*
Barry J. Bass
Fritz A. Byrum
Jo-Ellyn Ryall
Robert E. Gardner
Mohammed Akhter
Elias Throne
Carl C. Pearman
Jimmy D. Heath
Joseph J. Lauber
Richard K. Danis
Victoria Gunn
Mr. Carlos Buznego
Ms. Shari Dobkin
Dorothy D. Reister, *Councilor Advisor*

Commission on Medical-Legal Affairs

From the speed with which the financial cap on pain and suffering has worked its way through the legislation system, it would appear that the Commission had accomplished a miracle. Nothing could be further from the truth. We have not met.

I am at least partially responsible for the inaction. Fortunately others have been more diligent. This is at least part of the reason for our not meeting.

We plan to meet after executive approval of the non economic loss bill to further pursue structured settlements, countersuits, joint liability and other unfair legal practices.

Leonard L. Davis, Jr., *Chairman*
William J. Medlicott
David M. Reisler
Ronald Benson
J. Michael Conoyer
Johannes Schokker
Donald E. Kuenzi
George L. Hawkins, Jr.
James E. Mallow
Tehmton Mistry
Frank Ostapowicz
Allen L. Spitler
Ben I. Albano
John P. Roberts
Garth S. Russell
Brad Freilich, *Student*

Committee on Constitution and Bylaws

Report A — Unified Membership

At the 1985 Annual Convention of the Missouri State Medical Association, the House of Delegates adopted the following amended Resolution #2:

> **RESOLVED,** that the Constitution and Bylaws of the MSMA be changed whereby all members of MSMA shall also be members of AMA unless they are already members of the American Osteopathic Association; and be it further
>
> **RESOLVED,** that full and ample discussion of this important issue occur in each of the Councilor Districts and all of the component societies to the end that this action shall be brought before the House of Delegates during the first session of the 1986 Annual Convention of this Association.

Information since received from the AMA indicates that the language contained in the amendment to the resolution, exempting AOA members from the AMA membership requirement, does *not* constitute unified membership.

As the intent of the original resolution was unification of MSMA membership with AMA membership, this Committee suggested the following wording to fulfill the Council's original intent (words to be added are underlined):

Constitutional Change

Article III. Membership

Membership in this Association shall be limited to and include all members in good standing in both the component societies which hold charters from this Association and the American Medical Association.

Bylaws Change

Chapter I. Membership

Section 1. Members of this Association shall be those individuals whose names have been certified by secretaries of component societies to the Secretary of this Association that they are duly elected members of a component society and are legally qualified physicians practicing in Missouri, except as otherwise provided. Each member must be of good moral and professional standing, and must not support, nor practice, nor claim to practice any exclusive system of medicine. Each member shall also be a member of the American Medical Association.

Recommendation: Committee on Constitution and Bylaws recommended that the foregoing changes be adopted.

Report B — Resident Physician Section

At the 1985 Annual Convention, the House of Delegates referred Bylaws changes creating an MSMA Resident Physician organization to the Council for additional rewriting. This Committee was charged with making the requisite changes.

Also at the 1985 Convention, the House adopted Constitutional amendments regarding the new Resident Physician Section which, having lain over for a year, are now due for a final vote in the House. Both the rewritten Bylaws and the Constitutional changes are presented here. (Words to be added are underlined; words to be deleted are bracketed.)

Bylaws Changes

Chapter IX. Resident Physicians Section

Section 1. Membership. The Resident Physicians Section shall be composed of Resident Members of the Missouri State Medical Association who are serving in approved training programs and who are active members of a component medical society. Residents may be direct members of the Resident Physicians Section if the component society where the Resident resides or practices permits direct membership.

a. Governing Council. There shall be a Governing Council for the Resident Physicians Section. The Governing Council shall consist of the officers of the Resident Physicians Section and two members-at-large of the Section. All members of the Governing Council must be Resident Physician members of the Missouri State Medical Association elected by the members attending the Business Meeting of the Resident Physicians Section.

1. Duties. The Governing Council shall direct the programs and the activities of the Resident Physicians Section.
2. Vacancies. Any vacancy occurring on the Governing Council shall be filled at the next Business Meeting of the Resident Physicians Section.

Section 2. Officers. The members attending the Business Meeting of the Resident Physicians Section shall elect the following officers, who shall have these duties and responsibilities:

a. Chairman. The Chairman shall preside at all meetings of the Governing Council and the Business Meetings of the Resident Physicians Section.

b. Vice Chairman. The Vice Chairman shall preside at meetings of the Governing Council or the Business Meetings of the Resident Physicians Section, in the absence of the Chairman or at the request of the Chairman.

c. Secretary. The Secretary shall maintain such records as are required or advisable for the conduct of the activities of the Resident Physicians Section.

d. Delegate and Alternate Delegate. The Delegate and Alternate Delegate shall represent the Section in the MSMA House of Delegates.

Section 3. Business Meeting. There shall be a Business Meeting of members of the Resident Physicians Section. The Business Meeting shall be held on a day prior to each Annual Meeting of the House of Delegates.

Section 4. Rules of Order. Only members of the Resident Physicians Section shall have the right to vote, but the meetings shall be open to any member of the Missouri State Medical Association. The meeting shall be conducted pursuant to established rules of procedure adopted by the Governing Council.

Section 5. Purposes of the Meeting. The purposes of the meeting shall be:

a. To hear such reports as may be appropriate.

b. To elect a Chairman who shall serve until the conclusion of the next Annual Meeting.

c. To elect other officers of the Resident Physicians Section and two members-at-large of the Governing Council. Those elected shall assume office at the conclusion of the Annual Meeting at which they are elected and shall serve until the conclusion of the next Annual Meeting.

d. To consider and vote upon such matters as may properly come before the meeting. Subsequent Chapters to be renumbered.

Additional Bylaw Changes

The following additional changes will also need to be made in the Bylaws, assuming the foregoing Chapter is adopted. (Words to be added are underlined; words to be deleted are bracketed.)

Chapter I, Section 3. Resident [Junior] members shall be limited to those members of the Resident Physicians Section [component societies] who are serving a full-time post-graduate training program in a hospital approved by the American Medical Association and shall enjoy all of the privileges of active membership.

Chapter III, Section 4. The Resident Physicians Section shall be entitled to send each year six delegates elected by the Section to the House of Delegates at the Annual Convention. Each delegate shall be a member in good standing with this Association. Such resident delegates shall enjoy all rights and privileges of all other delegates. Remaining Sections to be renumbered.

Chapter IV, Section 1. The President, on the first day of the Annual Convention, shall select a Committee on Nominations consisting of thirteen [eleven] delegates, one from each Councilor District, [and] one from a medical school component society [.] , one from the Hospital Medical Staff Section and one from the Resident Physicians Section. The Committee on Nominations shall determine that proposed candidates for office are qualified and willing to serve and shall report to the House of Delegates in the form of a ticket containing the names of one or more members for each of the officers listed in Article VIII of the Constitution, which are to be filled at the Annual Convention, excepting the Secretary and Treasurer who are elected by the Council from the general membership.

Chapter IV, Section 7. Delegates from the Resident Physicians Section shall combine and elect one Councilor and one Vice-Councilor. The duly elected Councilor and Vice-Councilor from the Resident Physicians Section shall serve on an annual renewable basis. Remaining Sections to be renumbered.

Chapter IX, Section 1. a. The Annual Dues of this Association shall be $150 which shall be applicable to each active member of the Association beginning in 1985 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $75 for the first calendar year and shall be Active members; the per capita levy for resident [junior] members shall be $10 per year; student members shall not be required to pay dues; honor members shall not be required to pay dues. Dues shall be payable on January 1 of the year for which they are levied.

Chapter IX, Section 3. The House of Delegates may, when in its judgment the best interest of the Association demands, recommend an assessment on each active, resident [junior] and student member. Such assessment shall be levied only by consent of two-thirds of the members of the House of Delegates present and voting. Funds obtained from such special assessment shall be allocated only for the purposes for which such assessment is levied and in accordance with substantiating budgets. Unexpended balances from such assessments must be reported to the House of Delegates for reallocation.

Chapter XII, Section 7. At some meeting in advance of the Annual Convention of this Association, each component society, the Hospital Medical Staff Section, and the Resident Physicians Section shall elect one or more delegates and an equal number of alternatives to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2 [or], 3, 4 or 5 of these Bylaws. The secretary of each component society, the Hospital Medical Staff Section and the Resident Physicians Section shall send a list of such delegates and alternates to the Secretary of this Association at least sixty days before the Annual Convention. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Constitutional Changes

Assuming the foregoing changes are accepted, the following changes will need to be made in the Constitution. (Words to be added are underlined; words to be deleted are bracketed.)

Article V. Council

The Council shall be the executive body of this Association when the House of Delegates is not in session. It shall consist of the President, President-Elect, Immediate Past-President, Secretary, and Treasurer [and] the duly elected Councilors from each Councilor District, and [a duly elected medical student Councilor.] the duly elected Councilors from the medical student component societies, the Resident Physicians Section and the Hospital Medical Staff Section.

Article VIII. Officers

Section 2. The Officers shall be elected annually. The term of Councilors and Vice-Councilors shall be two years except for the duly elected medical student Councilor, resident physician Councilor and hospital medical staff Councilor, who shall each be elected for a one-year term. Half of the membership of the Council shall be elected each year. The Secretary and Treasurer shall be elected by the Council from the general membership. The delegates from each Councilor District shall meet prior to the last day of the Annual Convention and elect the Councilors and Vice-Councilor from that district. The Delegates from the medical school component societies, the Resident Physicians Section and the Hospital Medical Staff Section shall meet prior to the last day of the Annual Convention and elect [a medical student] their respective Councilor and Vice-Councilor. In the event of death, resignation or removal of any Councilor, the Vice-Councilor shall automatically fill the vacancy. The officers shall serve until their successors are installed.

Recommendation: The Committee on Constitution and Bylaws recommended that the foregoing amendments be adopted.

Report C — Committee on the Impaired Physician

On referral from the MSMA Council, this Committee has considered amendments to the Association Bylaws that alter the makeup of the MSMA Committee on the Impaired Physician.

The Committee offers the following amended language to achieve this end (words to be added are underlined; words to be deleted are bracketed).

Chapter VII. Committees and Commissions

Section 1. The Committee on the Impaired Physician shall consist of [five] members of the Association appointed by the President for a term of three years. [Two members shall be appointed for three years, two for two years, and one member for one year. As the term of each expires, his successor shall be appointed for a term of three years.] The Committee on the Impaired Physician shall plan and execute programs of professional assistance for members of this Association who may require assistance to continue or return to their professional activities.

Recommendation: The Committee on Constitution and Bylaws recommended the foregoing change be adopted.

Report D — Election of Officers/ Speaker's Recommendations

This Committee, on request of the Speaker of the House of Delegates and the MSMA Council, has studied changes in the Bylaws that would bring the written procedures for nominating and electing Association officers into conformity with what have become, by tradition, accepted procedures.

Election of Officers
Bylaw Changes

Currently, election of officers is accomplished by voice vote. However, the Bylaws, as they now stand, require a written ballot. Your Committee suggests the following change in the Bylaws to correct the discrepancy (words to be added are underlined; words to be deleted are bracketed).

Chapter IV. Election of Officers

Section 2. All contested elections shall be by written ballot. A majority of the votes cast shall be necessary to elect.

Recommendation: The Committee on Constitution and Bylaws recommended this change be adopted.

Committee on Nominations
Bylaw Changes

Another "traditional" procedure that has been followed without benefit of Bylaws guidelines is the timing of the report of the Committee on Nominations. The Bylaws currently provide for this report to be given at the final (third) session of the House of Delegates. However, actual practice of the House has been to hear this report at the second session.

The Committee submits the following changes to bring the Bylaws and actual procedure into agreement (words to be added are underlined; words to be deleted are bracketed).

Chapter III. House of Delegates

Section 10. The following shall be the general order of business of the House of Delegates for the first session of the Convention.

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll Call.
4. Reading and adoption of minutes.
5. Report of Officers.
6. Report of Committees.
7. Unfinished business.
8. New business.

The following shall be the general order of business of House of Delegates for the last session of the Convention.

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll Call.
4. Reading and adoption of minutes.

[5. Report of the Nominating Committee.]
[6.] 5. Election of Officers.
[7.] 6. Reports of Officers.
[8.] 7. Reports of Committees.
[9.] 8. Unfinished business.
[10.] 9. New business (see Chap. III, Sec.1).
[11.]10. Installation of Officers.
[12.]11. President's appointments and installation of members to Committees.
[13.]12. Selection of the place for the next Annual Convention.

At any session of the House of Delegates, the order of business may be changed by a two-thirds affirmative vote of the members present and voting.

Chapter IV. Election of Officers

Section 1. The President, on the first day of the Annual Convention, shall select a Committee on Nominations consisting of eleven delegates, one from each Councilor District and one from a medical school component society. The Committee on Nominations shall determine that proposed candidates for office are qualified and willing to serve and shall report at the Second Session to the House of Delegates in the form of a ticket containing the names of one or more members for each of the officers listed in Article VIII of the Constitution, which are to be filled at the Annual Convention, excepting the Secretary and Treasurer who are elected by the Council from the general membership.

We would like to emphasize that this language, as was originally intended, does call for the nomination of the President-Elect with the rest of the slate. Traditional practice has been to nominate the President-Elect separately, from the floor, at the final session of the House. Your Committee, acting on recommendation from the Council and the Speaker of the House, supports a return to the procedure provided for in the Bylaws; namely, nominating the President-Elect with the rest of the slate of officers.

Additional "Housekeeping" Change

Assuming these changes are accepted, one other Bylaw change would be required. (Words to be added are underlined; words to be deleted are bracketed.)

Chapter III. House of Delegates

Section 1. At the Second Session of the House of Delegates, introduction of Resolutions would be allowed only if approved by two-thirds of the delegates voting. [The House of Delegates shall meet on the last day of the Annual Convention to receive the report of the Nominating Committee and complete unfinished business and the election of officers.] The same procedure with regard to resolutions would be followed at the last [that] session, but it would then take a unanimous vote of the House to allow such introduction. At the discretion of the Speaker, these conditions would not apply for resolutions of good wishes, condolences, congratulations and others of a personal nature.

Recommendation: The Committee on Constitution and Bylaws recommended the adoption of the foregoing Bylaws changes.

Sivaprasad D. Madduri, *Chairman*
Linda Fisher
Douglas B. Bogart
Warford B. Johnson, II

Committee on the Impaired Physician

The Committee on the Impaired Physician met on August 3-4, September 11, via phone conference, and November 3, 1985.

The Committee on the Impaired Physician formalized the Committee's goals and objectives and assessed strengths and weaknesses of the Impaired Physician Program.

The "Impaired Physician" is defined as a physician whose performance as a professional person and as a practitioner of the healing arts is impaired because of alcoholism, drug abuse, mental illness, senility, or disabling disease.

The MSMA Committee on the Impaired Physician is a standing committee of the Missouri State Medical Association. Its members are appointed to staggered terms by the President of the MSMA and composed of physicians interested in the area of the impaired physician and an ex officio member of the MSMA Auxiliary.

This Committee will have the responsibility and authority to:

A. Develop policy and procedures for this program
B. Review all cases
C. Recruit Intervenors
D. Conduct educational activities for the Intervenors
E. Submit an annual report for the Committee on the Impaired Physician to the House of Delegates.

Purpose

The purpose of the MSMA Impaired Physician Program is to provide assistance to those physicians who have become impaired and, as a result, are unable to maintain a level of performance consistent with the expectations of the public, their peers, the Missouri State Medical Association and the Missouri Board of Healing Arts.

Goals

The primary goal of this program is to provide constructive intervention resulting in a restitution of normal functioning. Whereas, the primary goal is that of assisting the physician to recovery or to function within stated limitations, an equally important goal is to protect the public from those physicians who, for whatever reason, are unable to recover to a level of acceptable performance.

Objectives

1. To develop a program and a committee structure to implement and operate the Impaired Physician Program.
2. To develop a mechanism of identification and validation of the impairment.
3. To develop confrontation techniques.
4. To develop a treatment, referral and support system for the involved physicians and their families.
5. To develop a mechanism that will assist the recovering physician with re-entry opportunities.
6. To develop a monitoring and aftercare program.
7. To provide for appropriate liaison with other health associations and the Missouri Board of Healing Arts.
8. To provide an educational program which would facilitate the understanding and cooperation of MSMA members and the public.
9. To maintain strict confidence regarding all received data.

Telephone Hot Line

The MSMA has installed a telephone, (314) 636-5744, for the purpose of receiving calls with regard to alleged instances of impairment. Initial data to be recorded will include the name and phone number of the caller. A committee member will then contact this individual to obtain detailed data in order to verify an impairment.

Acting upon this information, the appropriate committee member is notified and Intervenors are called upon to confront the physician. Hopefully, following confrontation, the physician will enter a treatment program and will then be monitored in conjunction with an aftercare program.

After careful assessment of this program, the committee identified the following areas that will require additional attention:

1. Financial support.
   As a result of current MSMA budget restraints, the Impaired Physician Program does not have a Medical Director.
2. Educational Program.
   There is a lack of knowledge about the problems of substance abuse, impairment and recovery processes at all levels of professional functioning — medical schools, medical societies, hospitals and auxiliaries.
3. Interaction with the Missouri State Board of Healing Arts.
   One of the essential components of the Impaired Physician Program is an advocacy roll for the physician. While the Board for the Healing Arts is a regulatory agency to insure quality of care for Missouri citizens, a close working relationship is essential to understanding our common interfaces and differing viewpoints.
4. Re-entry, aftercare and monitoring program.
   At this time, there is no formal mechanism established.
5. Intervenor training.
   Currently, no formal training program for Intervenors.
6. Identification of acceptable treatment centers.
   Specific information on these centers is not available.

The Committee recommended that a Medical Director administer the MSMA Impaired Physician Program.

Ideally, this should be a full-time Medical Director to carry out the following duties and responsibilities: understanding financial constraints, an acceptable alternative would be a part-time physician. Hopefully, in the future, as has been done in the state of New Jersey, there can be assistance to subsidize the salary of a Medical Director from state malpractice carriers and other professional organizations. This Committee believes that only a Medical Director can overcome the present problems that continue to confront this Association and Committee.

Dr. Mihalevich, Chairman, met with the MSMA Council on August 24 and presented a recommendation for a half-time Medical Director with a salary of $35,000-40,000 annually. On motion and duly seconded, the Council approved the recommendation and authorized the Committee on the Impaired Physician to proceed in a search for a half-time Medical Director.

The first Intervention Seminar, sponsored by the MSMA, November 2-3, Breckenridge on the Lake, Lake of the Ozarks, was well-attended. Dr. William J. Farley, Medical Director of the Georgia Medical Association Impaired Physician Program, Atlanta, provided invaluable information regarding concepts and principles of intervention. Comments from the participants indicated that a similar seminar should be repeated in other portions of the state.

Committee members interviewed two physicians that had expressed an interest in the position of Medical Director for the MSMA Impaired Physician Program. Both candidates were well qualified, however, it was the feeling of the Committee that this position should be filled by a physician that has had considerable experience in treating patients with substance abuse. The Committee will continue to seek candidates for the position of Medical Director for the Impaired Physician Program.

The Missouri State Medical Association, the Missouri Association of Osteopathic Physicians and Surgeons, and the State Board of Registration for the Healing Arts, will jointly sponsor a program on February 22 to study the feasibility of development and implementation of a monitored aftercare program for impaired physicians. John Ulwelling, Executive Director of the Oregon State Board of Medical Examiners, will present material on the program in Oregon that has been well received by the medical community.

The Committee is compiling a list of Missouri treatment programs that will provide such information as length of programs, costs, insurance coverage and other specific data. This information will be made available to physicians serving as Intervenors on the Committee on the Impaired Physician.

John A. Mihalevich, Jr., *Chairman*
John J. O'Hearne
Donald E. McIntosh
John P. Carmody
Joseph B. Kendis
Hugh C. Bartlett
Carl Pearman
Carroll D. Patterson
William I. Stryker
C. Edward Felker, III
David J. Ray
Mrs. Kris Shaw

Committee on Legislative Affairs

As anticipated, the current Session of the Missouri General Assembly has been one of the busiest on record for medicine.

When Senator Robert Johnson (R-Lee's Summit), at the request of the MSMA, gained passage of a resolution establishing a Senate Interim Committee on Professional Liability during the 1985 Session, the schedule was set. Following several hearings around the state and nearly countless meetings with both our allies and the Trial Attorneys from June through December, we were finally able to fashion **Senate Bill 663**, which addressed the medical malpractice problem in Missouri.

Although not the final solution to the professional liability crisis, **SB 663** is a true compromise which should help alleviate some major problems. The business community in Missouri is now using **SB 663** as an example for legislative changes that are needed in other areas of tort law.

Senate Bill 663 was introduced into the General Assembly in early January and received priority treatment by both houses. It was signed into law by the Governor on February 3.

In other areas of legislation, your Committee's fears that groups desiring to gain passage of legislation detrimental to medicine while we were "tied up" with the professional liability issue proved correct. The following non-licensed or limited-licensed groups introduced bills:

Optometrists
Physical Therapists
Nurses
Social Workers
Nutritionists
Lay Midwives
Physician Assistants
Respiratory Therapists
Occupational Therapists

All of these groups have mounted highly visible campaigns to push their individual bills. The MSMA has provided testimony, physician contacts and lobbying against each issue.

The Lay Midwife bill . . . which will come back year after year as more Family Physicians and OB-GYN's stop delivering babies . . . was defeated in the House this year.

House Bill 1333, which would permit optometrists to use oral and topical therapeudic drugs, has passed the House and is awaiting Senate action. Physicians should contact their Senator and express opposition to this effort by nonphysicians to practice medicine!

The Association has made two full-member mailings detailing the dangers of the optometry and lay midwife bills, but the response of our members has been dismal. Most Legislators say they heard nothing from their physicians back home regarding these issues.

The other bills introduced by these groups are probably dead for this Session. But, again, they will be re-introduced next Session and if individual physicians do not become involved in the political process, we can expect some of the bills to pass in the near future.

Briefly, the physical therapists want to eliminate the requirement that patients be referred to them by a physician so they could practice independently; nurses are asking for direct reimbursement from third-party payors and the other groups listed are seeking licensure.

We are about the only organization which opposes expansion of practice acts and additional licensure, which ultimately results in limiting the number of individuals who can provide certain care and, thus, increases health care costs.

These are just a few of the more than 200 bills introduced in the Missouri Legislature which could affect your patients or your practice . . . each year the number grows.

Medicine is going to lose . . . and lose big . . . if we cannot find a method to interest physicians in the political and legislative process.

The groups we are battling this year, the optometrists and lay midwives, for example, have memberships of less than 1/10 of the MSMA. Yet these groups gain the active participation of nearly 100% of their members on their issues.

What it amounts to is that 500 optometrists can defeat 6,800 physicians on a bill because almost all of those optometrists will personally help Legislators in their election campaigns, get to know their Legislators on a first-name basis and then come to Jefferson City and sit down and discuss the bill with their Legislator.

Of the 6,800 physicians in the MSMA, few are contributors to State Senate and House candidates, many do not even know the names of their elected officials and we would be lucky if 50 would come to the Capitol throughout the year to talk with their Legislators!

Therefore, to be frank, you can expect the MSMA to begin losing more battles in the State Capitol . . . not because we have the weaker arguments or less effective organization . . . but because our physician members apparently have placed themselves "above politics."

I would caution you that next year (or the next) when a bill you dislike becomes law and you complain to the Association that "the MSMA should have done something," be prepared to tell us exactly what *you* did to influence your State Senator and Representative. Remember, an Association cannot pass or defeat legislation . . . it is the action of members that will dictate our success or failure!

John I. Matthews, *Chairman*
Walter A. German
H. Peter Ekern
Larry G. Piepergerdes
Donald P. Miller
Marvin A. Singleton
T. J. Cooper
Alan Braun
Kenneth Rall
Sandy Mitchell (Mrs. John)
Mary Beth Esswein, *Student*

Committee on Publication

The 82nd volume of *Missouri Medicine* was introduced in January 1985 with a complete redesign of the Journal. The new design was well received by members. During the year, 12 issues were published. Eleven of these contained scientific articles, special articles and features, organizational reports, monthly messages from the presidents of the MSMA and the Auxiliary as well as from the editor, news from Missouri medical schools, listings of new members and recipients of the Physician's Recognition Award, news items of interest to members of the medical profession and MSMA "Progress Notes."

The July issue also presented a summary of the meetings and actions taken by the 1985 House of Delegates at the Association's 127th Annual Convention. The annual directory issue was published in August. The February and August issues included a directory of medical specialty organizations in Missouri.

The MSMA Council reappointed Jordan W. Burkey, M.D., of Springfield, as editor and appointed Donald G. Sessions, M.D., of St. Louis, an associate editor.

There were two special issues of the Journal. The September issue featured legislative news and an interview with Governor John D. Ashcroft. The scientific articles in the October issue were contributed by members of the faculty of the University of Missouri-Columbia.

During the year, 39 scientific articles and 16 special articles and features were published. Most were written by Missouri authors. The average circulation for 1985 was 7,169.

The editors wish to express appreciation to all who submitted scientific manuscripts and to those others who also contributed to our Journal in numerous other ways. The complete financial report for the 1985 Journal is included in the financial statement of the Missouri State Medical Association. The report is published in the March 1986 issue of *Missouri Medicine* and is included in the Delegates Handbook.

Jordan W. Burkey, *Chairman*
Donald G. Sessions
Donald E. Menchetti
Jerry W. Templer
John K. Layle
Earl R. Schultz

Ad Hoc Committee on "Sunsetting"

The Ad Hoc Committee on Sunsetting met by conference call on January 30, 1986.

Following discussion of a number of MSMA policies that had been recommended for "sunsetting," the Committee recommended that 13 policies be struck from the MSMA Official Policy Manual.

The Committee also recommended that the Chairman of the MSMA Council appoint a committee each year to accomplish the five-year review of policies. The Committee suggested the review of policies take place prior to the February Council meeting each year.

The 13 policies recommended for retirement by this committee are:

Armed Services: The MSMA encourages the Department of Defense to take steps to attract physicians to serve in the Armed Forces Reserve. Physicians should be utilized according to their capabilities and training and compensated appropriately for their time. (1979)

Certificate-of-Need: Any Certificate-of-Need law in Missouri should completely exempt private physicians and their offices from provisions of the legislation and contain a dollar limit of at least $500,000 before a Certificate is required in remodeling or constructing of health care facilities. (1976)

CHAMPUS: The MSMA recommends that CHAMPUS discontinue the use of nonphysician health care providers due to a lack of documentation of cost-effectiveness and the resulting lower standard of health care for patients. (1981)

Community Professional Directories: It is not unethical for a physician to authorize the listing of his name and practice in a directory for professional or lay use which is intended to list all physicians in the community on a uniform and nondiscriminatory basis. The listing shall not include any self-aggrandizing statement or qualitative judgment regarding the physician's skills or competence. The *American Medical Directory* provides an example of the kind of information that may be properly listed in national as well as community directories for health service personnel. Likewise, specialties or specialty practices used in the *American Medical Directory* should set the pattern for specialty designations. (1975)

Drugs — Use of Combination of: The Federal Food and Drug Administration should carefully study the prescribing habits of physicians before discontinuing a combination of drugs packaged together. (1974)

Health Systems Agencies: The MSMA supports a program of voluntary, locally based health planning designed to address particular local and regional needs and favors legislation repealing the National Health Planning Act. (1981)

Hospital — Preadmission Certification: The MSMA will continue to oppose implementation of hospital preadmission certification. (1974)

Licensing — FMGs: The MSMA endorses the policy of accepting the "Fifth Pathway" for physician licensure in Missouri. (1975)

Medicaid Program: The MSMA no longer endorses the Title XIX Medicaid Program because of the unreasonably low level of reimbursement for physicians' services. (1978)

National Health Insurance: Any system of national health insurance must be designed with the consultation and aid of practicing physicians with the welfare of the patient as the guiding principle. A mechanism should be provided so the patient realizes the value of medical services to the point of real participation in the payment for those services. (1974)

The MSMA endorses the American Medical Association's bill as the national health insurance plan best suited to maintaining the high quality of American medicine. (1976)

Osteopaths — Association With: Medical doctors may consult or associate with Doctors of Osteopathy and participate in postgraduate education specifically designed for their needs. (1965)

Second Opinions in Surgery: The MSMA, while realizing the value of consultation, opposes the concept of mandatory second opinions and supports the position that when second or more opinions are mandated by any party that this party is responsible for any consultation fee and the choice of consultant is the responsibility of the patient and/or the attending physician. (1978)

Utilization Review — Participation: The MSMA supports the right of individual physicians voluntarily to elect not to participate in governmental review programs which they believe conflict with the principles of good medical practice when they have no contractual or ethical obligation to such program. (1976)

Theodore L. Paletta, *Chairman*
Frederick Peterson
Dorothy Reister
Barbara Buchanan
Jerry Meyer

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Help for the Impaired Physician

Through its Physician Rehabilitation Committee, MSMA helps doctors who are suffering from alcoholism, other drug addiction, psychiatric disorders, or senility. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

Help Us To Help

Call the Physicians' Confidential 24-Hour Line (314-636-5744). Only specially trained personnel will answer or return your call.

Physician's Recognition Awards

Twenty-five MSMA members qualified for the MSMA-AMA Physician's Recognition Award during April 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Butler-Wayne-Ripley-Carter

John P. Christy, *Poplar Bluff*

Chariton-Macon-Monroe-Randolph

Clarence C. Cohrs, *Moberly*

Cole

John C. Lyskowski, *Jefferson City*

Dallas-Hickory-Dade

Keith A. Wright, *Bolivar*

Greene

Jeffrey R. Johnson, *Springfield*
William K. Rosen, *Springfield*
Ronald M. Wachter, *Springfield*

Henry

Kenneth F. Scott, *Clinton*

Jackson

Jafar Amini, *Kansas City*
John V. Anderson, *Kansas City*
James S. Bower, *Kansas City*
Stanley Hellerstein, *Kansas City*
Ronald A. Higgins, *Kansas City*
Rosalyn E. Inniss, *Kansas City*
Larry E. Legler, *Independence*
Paul W. Nelson, *Kansas City*
Dwight K. Oxley, *Kansas City*
Robert L. Rogers, *Kansas City*

St. Charles-Lincoln

William H. Poggemeier, *St. Charles*

St. Louis

William G. Arney, *St. Louis*
James A. Diestelhorst, *Creve Coeur*
Alice D. Kitchen, *St. Louis*

SEMO

Jimmy D. Heath, *East Prairie*

South Central

Marvin L. Fowler, *West Plains*

Webster

Thomas M. MacDonnell, *Marshfield*

Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

July

10-13 **Fifth Annual Summer Medical Symposium: "Medicine for the Practicing Physician"** — Location: Broadmoor Hotel, Colorado Springs, Colo. Contact: Carole Rosen, CME Office, University of Kansas Medical Center, 39th and Rainbow, Kansas City, KS 66103. 913/588-4480.

12 **Chronic Disease Update** — Location: Independence, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

13 **SIDS (Sudden Infant Death Syndrome)** — Location: MA217 CME Auditorium, UMC. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 **Controversies in Breast Cancer Management** — Location: Jewish Hospital at Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid Ave., St. Louis, MO 63110. 314/362-6893.

24-25 **Pediatric Advanced Life Support Course** — Location: Breckenridge on the Lake, Osage Beach. Contact: Marian Minter, American College of Emergency Physicians, 15073 Green Circle Dr., Chesterfield, MO 63017. 314/527-2185.

25-27 **Third Regional Conference: Critical Path in Disease & Trauma** — Location: Breckenridge on the Lake, Osage Beach. Contact: Marian Minter, American College of Emergency Physicians, 15073 Green Circle Dr., Chesterfield, MO 63107. 314/527-2185.

August

1 **Human Sexuality** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute for Postgraduate Medical Education, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

2-3 **Soft Tissue Surgery Workshop** — Location: Barnes Hospital, St. Louis. Contact: American Academy of Facial and Plastic Reconstructive Surgery, 1101 Vermont Ave., N.W., Suite 404, Washington, DC 20005. 202/842-4500.

27-28 **Advanced Cardiac Life Support Provider Course** — Location: Student Center, University of Kansas Medical Center. Contact: Carole Rossen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

September

5 **Primary Care Update** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

8 **Regulation and Education: Is there a Proper Balance for the Food and Drug Administration?** — Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Director, Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314/362-7100.

17-20 **Annual Postgraduate Symposium on Internal Medicine** — Location: Kansas City Alameda Plaza Hotel. Contact: Carole Rosen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

24 **The Office Treatment of Hypertension** — Location: St. Louis Sheraton Westport Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

24-25 **Central Nervous System Disorders of Aging** — Location: St. Louis Clarion Hotel. Contact: Symposium Secretary, VA Medical Center, GRECC (111G-JB), St. Louis, MO 63125. 314/894-4659.

24-26 **Two-Dimensional Doppler Echocardiography** — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

25-26 **Injuries and Injury Prevention/Pediatric Update** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

29-30 **Missouri Perinatal Association Clinical Conference** — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

October

1 **Psychiatry** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

4-5 **Infectious Diseases Conference** — Location: Tan-Tar-A Resort, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia Health Sciences Center, CME Office, MA215, Columbia, MO 65212. 314/882-4105.

9-11 **29th Annual Physicians Weekend** — Location: MA217 Auditorium, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 **American Cancer Society: Pediatric Oncology Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

21-22 **Medicine and Religion: Ethics of Sexuality and Reproduction** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: Carole Rosen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

24-25 **Emergency Respiratory Care** — Location: Doubletree Hotel, Overland Park, KS. Contact: Carole Rosen, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

30-31 **Chronic Obstructive Pulmonary Disease** — Location: Columbia Hilton. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

November

6-8 **Clinical Allergy for the Practicing Physician** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

14-16 **13th Annual Symposium: Anesthesia and the Geriatric Patient** — Location: St. Louis Marriott Pavilion Hotel. Contact: Geriatric Symposium, Department of Anesthesiology, Box 8054, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, MO 63110.

December

3 **Angina Pectoris** — Location: Pending. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Magnetic Resonance Imaging** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: Carole Rosen, Promotions Coordinator, Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4480.

12-13 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine.* Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

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Witten, David M., Columbia

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Knipschild, B. F., Marshall
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Lovinger, Warren Jr., Nevada
Magee, Robert L., El Dorado Springs
Maxon, T. Reed, Warrensburg
Meyer, Jerry L., Concordia
Mou, Bin, Nevada
Pavlu, Robert, Carrollton
Thies, Jerome H., Osceola
Torontow, John, Nevada
Turner, W. A., Nevada

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Bickley, James, Kansas City
Bogart, Douglas, Kansas City
Buchanan, Barbara, Kansas City
Caffrey, R. J., Kansas City
Calovich, Emery R., Kansas City
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Fletcher, Robert C., Kansas City
Franklin, Curtis U., Kansas City
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Hahn, Fred, Kansas City
Hall, John C., Kansas City
Harold, Ralph E., Independence
Hausheer, Herman J., Independence
Hess, Suzanne, Kansas City
Hoech, George P., Kansas City
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Brian, William, Springfield
Bridgen, Robert B., Joplin
Burkey, Jordan W., Springfield
Clarke, Michael S., Springfield
Clary, William F., Springfield
Corry, Francis M., Springfield
Dandridge, W. C., Joplin
Dixon, Herbert K., Joplin
Domann, Darrel D., Springfield
Gaston, Sam L., Joplin
Gentry, Michael A., Springfield
German, Walter A., Springfield
H'Doubler, Charles, Springfield
Hall, David, Rogersville
Hellam, Duane, Springfield
Hilton, Paul E., Joplin
Ivy, Berry, Springfield
Key, James S., Springfield
Kissell, Richard, Springfield
Knowlton, Norman P., Springfield
Lurie, Hal, Springfield
Macdonnell, Thomas M., Marshfield
Mangalat, Nick, Joplin
McAlhany, Howard, Springfield
McIntosh, Donald, Springfield
Menchetti, Don, Springfield
Miles, Wayne B., Springfield
Milne, Jay L., Springfield
Molchan, J. L., Bolivar
Moore, De Armond, Springfield
Morrow, N. Eugene "Gene", Springfield
Muegge, Dave, Springfield
Park, Bert, Springfield
Peterson, Stanley S., Springfield
Piker, K. Dewayne, Springfield
Pinckley, James N., Springfield
Pryor, Ira Joe, Joplin
Roberts, Howard, Joplin
Sauer, Paul F., Springfield
Shaeffer, J. T., Springfield
Shane, Ramon, Springfield
Shields, Lawrence, Springfield
Singleton, Marvin, Joplin

Sullivan, Dan, Springfield
Sweeney, Thomas P., Springfield
Wall, N. R., Springfield
Washburn, Kenneth, Springfield
Whitlock, C. C., Springfield
Willcoxon, R., Joplin
Winsky, Arlen D., Springfield
Wolfe, James B., Springfield
Wolfe, John, Springfield

Ninth Councilor District — 13

Barbe, David O., Mountain Grove
Bass, Barry J., Rolla
Bhati, Deo K., Salem
Grannemann, H. Neal, Rolla
Hasek, James A., Mountain Grove
Hasek, O. Martin, Mountain Grove
Jenkins, Edward R., Waynesville
Mayuga, Larry, Cabool
Russell, Barbara E., Rolla
Stricker, E. A., St. James
Stubbs, Thomas R., West Plains
Wall, Joe A., Houston
Young, Robert B., Rolla

Tenth Councilor District — 37

Albano, Benjamin, Crystal City
Auner, J. David, Ironton
Cancelada, Juan, Farmington
Cento, Donald, Sikeston
Chapman, Jean A., Cape Girardeau
Comeau, R., Dexter
Dettmer, Robert F., Ironton
Eller, Gordon W., Cape Girardeau
Essmyer, Joseph, Cape Girardeau
Fairchild, Fred, Perryville
Glenn, T. J., Cape Girardeau
Griffin, Darrell, Farmington
Gujarati, Subhash, Poplar Bluff
Heath, Jim D., East Prairie
Heeb, Max, Sikeston
Hill, Ronald T., Dexter
Jung, Christopher H., Cape Girardeau
Jung, J. Marshall, Cape Girardeau
Kasten, Melvin C., Cape Girardeau
Madduri, Aruna D., Poplar Bluff
Masters, Ed, Sikeston
Moore, Richard, Cape Girardeau
Pontillas, Job B., Perryville
Poole, Anthony, Sikeston
Pu, Pin H., Kennett
Raju, Niranjana, Ste. Genevieve
Ramirez, Ricardo M., Poplar Bluff
Reed, Martha, Hillsboro
Ritter, Raymond, Cape Girardeau
Robinson, Nicholas F., Kennett
Robinson, Ronald L., Cape Girardeau
Ruff, T. Eugene, Poplar Bluff
Seabaugh, Wm. O., Cape Girardeau
Shell, William C., Sikeston
Sparkman, Thomas C., Cape Girardeau
Swinfard, Ronald W., Cape Girardeau
Turner, Kirby L., Poplar Bluff

St. Louis University

Student Medical Society — 7

Godwin, Lee, St. Louis
Lawrence, Walter J., St. Louis
McManmon, Mary Pat, St. Louis
Meyer, Gretchen, St. Louis
Steinhubl, Steve, St. Louis
Tyree, Tom, St. Louis
Wadley, Jeff, St. Louis

University of Missouri-Kansas City

Student Medical Society — 2

Freilich, Brad, Kansas City
Knudsen, Michael W., Kansas City

University of Missouri-Columbia

Student Medical Society — 4

Blakeley, Dean D., Columbia
Fleischer, Alan, Columbia
Katz, Lawrence, Columbia
Schroeder, Robert E., Columbia

Guest Physicians — 63

Anspaugh, R. D., Oklahoma City, OK
Askanzi, Jeffrey, New York, NY
Balfe, Dennis, University City
Bleeckeor, E. R., Baltimore, MD
Bond, Michael, Memphis, TN
Braverman, David, Shawnee Mission, KS
Bruner, K. Wm., Prairie Village, KS
Caruso, Peter J., Mission Hills, KS
Chomhirun, Bud P., Wood River, IL
Chue, Fred, St. Louis
Casebolt, John, Albuquerque, NM
Davis, Jeff, San Antonio, TX
Diondo, Ray, North Little Rock, AR
Donovan, Raymond, Los Gatos, CA
Dowda, F. Wm., Atlanta, GA
Edwards, Randy, Tulsa, OK
Fischer, Thos. J., Hannibal
Fitz, John, Columbia
Friedman, Scott, Columbia
Giboney, Sharon, Springfield
Graham, Robert, Shawnee Mission, KS
Smith, Graham, Augusta, GA
Hamilton, Byron, Buffalo, NY
Hargrove, Joel, Columbia, TN
Hart, John, Holts Summit
Hazelrigg, Don, Evansville, IN
Herbert, Carl, Nashville, TN
Hickox, Peter, Houston, TX
Jamry, Wit, St. Louis
Jegasothy, Brian, Philadelphia, PA
Kestenbaum, Thelda, Kansas City, KS
Kodsch, Linda, St. Louis
Lahmeyer, Henry, Chicago, IL
Lee, J. G., Jr., Shawnee Mission, KS
Lindsay, Robert, Haverstraw, NY
McKnight, Scott, Columbia
Mings, Ronald, St. Louis
Mennemeyer, Ralph, Amarillo, TX
Messner, Daniel, St. Louis
Nalbandian, Robert, St. Louis
Notelovitz, Morris, Gainsville, FL
Pang, Victor, Kansas City
Passman, Steven, Wichita, KS
Proffitt, John, Kansas City
Rasmussen, T., Ann Arbor, MI
Richardson, Douglas, Leawood, KS
Roe, Chester, Kansas City
Roseman, Robert, St. Louis
Rosenblum, Barry, St. Louis
Rosenthal, J., Affton, MO
Sanders, Mark, Pittsburgh, PA
Shure, Deborah, San Diego, CA
Suri, Jagdish C., Clayton
Suri, Vinod, Clayton
Tokacs, Joan, Columbia
Utian, Wulf H., Cleveland, OH
Vanderwalker, Mark, Ft. Leonard Wood
Weiss, Carey, St. Louis
Wetchler, Bernard, Peoria, IL
Whitehead, Daniel W., Jr., MO
Wickerham, D. Lawrence, Pittsburgh, PA
Wolf, Robert L., Champaign, IL
Zheleznyar, Edward, St. Louis

There were 615 members, 63 guest physicians, 147 exhibitors, 118 MSMA Auxiliary members, 74 guests and 23 staff members. Total registration was 1,040.

Classifieds

WANTED — Board certified Obstetrician-Gynecologist to do general and high-risk Obstetrical and Gynecological practice in West Central Missouri. Would join two Board Certified Obstetrician-Gynecologists associated with an 18-member specialty group. Competitive salary and corporate fringe benefits. Send curriculum vitae to File #111, c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

FAMILY PRACTICE M.D. WANTED in Fordland, MO, population 750. Trade area of 7500. Town has supported two physicians in the past. We have an office building and other incentives. Please contact: Allen H. Devitt, 10 North St., Fordland, MO 65652 Office — 417/738-2972 or Home — 417/738-4369.

KANSAS CITY, MO — An emergency medicine specialist is being sought to complete existing team of physicians providing emergency department coverage at prestigious 600-bed Kansas City hospital. Excellent nursing and subspecialty backup. This career offers an excellent rate of compensation, full protection with occurrence in malpractice insurance, flexibility in scheduling, relocation assistance, CME allowance, plus more. For additional information contact: Dan Howard, Spectrum Emergency Care, Inc., P.O. Box 27352, St. Louis, MO 63141 1-800/325-3985 or 314/878-2280.

HEALTHLINE PHYSICIAN SERVICES, an affiliate of St. Louis University Medical Center, his part-time and full-time opportunities available for physicians in Emergency Department, Clinic, and Locum Tenens work. Excellent compensation, flexible schedules, administrative opportunities and benefits, no "on-call" responsibilities and a challenging medical environment. If you are just starting out, looking for a career change, or want to supplement your income from another source please contact: Barry Trautman, Healthline Physician Services, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

FULL-TIME PRIVATE PRACTICE OPPORTUNITIES from Healthline Physician Services, an affiliate of St. Louis University Medical Center, for the following specialties: Board Eligible or Board Certified Internal Medicine, and Board Certified Family Practice, Pediatrics and OB-GYN. Positions include income guarantee and no capital investment. For more information contact: Barry Trautman, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

OB/GYN, PEDIATRICIAN & FAMILY PRACTITIONER WANTED — To join 14-physician multi-specialty group. Must be Board certified or Board eligible. Competitive salary and excellent fringe benefits. Send CV reply to Medical Arts Clinic, Inc., 301 W. Liberty, Farmington, MO 63640. Attention: Ronald G. Stevens, Administrator. Or call 314/756-6751.

PRIMARY CARE PHYSICIANS — Comprehensive changes in the St. Louis County Health Department have created a variety of part-time and full-time opportunities for primary care physicians. Physicians board-certified or board eligible in family practice, internal medicine, pediatrics or OB/GYN are needed to staff positions. Competitive salaries and fringe benefits are available. For consideration, please send resume to: Chief Medical Officer, 801 South Brentwood Blvd., Clayton, MO 63105.

TWO PSYCHIATRISTS AND ONE NEUROLOGIST — needed to complement a team of dynamic psychiatrists and general physicians. Located 65 miles south of St. Louis on Highway 67, our hospital has 318 beds. We are looking for Board Certified or Eligible specialists. Remuneration will range from $67,000 up, depending on years of experience, Board Certification and optional on-call days. Fringe benefits come to an additional 35% of the salary which includes vacation time, sick time, CME allowance, health insurance and life insurance. For detailed information, please write to: Adolph J. Herath, M.D., Medical Director, Farmington State Hospital, Farmington, MO 63640 or call 314/756-6792, extension 347.

EMERGENCY MEDICINE — Full and part-time positions available in emergency departments and clinics for qualified physicians seeking lucrative employment opportunities. Outstanding remuneration and comprehensive malpractice insurance provided. For further information contact: Allison Katz, staffing specialist. National Emergency Services, Inc., 255 Executive Dr., Suite 104, Plainview, NY 11803 or call 1-800-645-4848.

FAMILY PRACTICE — To join three ABFP certified physicians. New 50 bed hospital. Medical School teaching affiliation. Obstetrical and ICU privileges. Insurance paid. Partnership eligibility after 1 year. For details contact: Groce, Cooper and Murphey, M.D.s, 820 Jefferson St., Fulton, MO 65251 314/642-6691.

OB/GYN OPPORTUNITY — Expanding 16 physician multi-specialty group has immediate opening for board certified/eligible OB/GYN. Competitive salary guarantee with unique production based compensation program. Full range of benefits. All practice costs paid. Early partnership status. Send C.V. reply to The Hannibal Clinic, 711 Grand, Hannibal, MO 63401, Attn: Dick Motley, clinic manager; or call 314/221-5250.

MEDICAL OFFICE FOR SALE OR LEASE — Approximately 2500 square foot medical office, equipped for family practice. Flexible terms available for qualified physician. Three blocks from modern hospital. Estate of Jack N. Wiles, M.D., Contact: John N. Wiles, attorney, P.O. Box 910, West Plains, MO 65775. 417/256-7712.

ANTHONIES MILL RESORT — Add 10 years to your life in the peaceful surroundings of this luxury resort. 600 acres of beautiful Ozark countryside surround the 110 acre Lake Ashley and yet only an hours drive from St. Louis — less from Rolla and Washington. Individual homes and condos available. All amenities planned. For further information: John F. Medler, M.D., 435 South Mason Rd., St. Louis, MO 63141. 314/872-7269 or 314/576-4058.

JAGUAR XKE AUTOMOBILE FOR SALE — 1972, 2 + 2, V-12, Auto, A/C, Dunlop Tires, Wire Wheels, AM-FM Stereo Cassette. Superb mechanical & cosmetic condition; a rare and beautiful classic. Phone 913/381-7252.

KIAWAH ISLAND, SOUTH CAROLINA, VACATION RENTAL — Deluxe three bedroom, three bath oceanfront villa. Ten miles of beautiful, unspoiled beach. Special low 1986 rates: $1200 per week June, July and August; $650 per week remainder of year. Contact Kiawah III, 417/883-7728 after 5 p.m.

New Members

■ **James L. Austin, M.D.,** Department of Surgery, M580, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Austin received his preliminary education at Southwestern State College and his medical degree at the University of Kentucky in 1976. He completed his residency at the University of Missouri-Columbia. He specializes in general surgery and gastrointestinal surgery.

■ **E. Stephen Bolesta, M.D.,** 1 Hospital Drive, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Bolesta received his preliminary education at Grinnell College and his medical degree at the University of Missouri-Columbia in 1984. He is completing his residency training at the University of Missouri-Columbia. He specializes in anatomic and clinical pathology.

■ **Kip A. Burkman, M.D.,** 501 Rusk Rehabilitation Center, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Burkman received his preliminary education at the University of Nebraska and his medical degree at the University of Nebraska in 1984. He is completing his residency training at Rusk Rehabilitation Center, Columbia. He specializes in physical medicine and rehabilitation.

■ **Fred C. Chu, M.D.,** 660 S. Euclid, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Chu received his preliminary education at Princeton and his medical degree at Cornell University in 1971. He completed his residency at Georgetown University Hospital. He specializes in ophthalmology and pediatric ophthalmology.

■ **Robert R. Conway, M.D.,** 5R-01 Rusk Rehabilitation Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Conway received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at Ohio State University. He specializes in physical medicine and rehabilitation.

■ **John R. Cope, M.D.,** Department of Radiology, School of Medicine, University of Missouri-Columbia 65212, has become a member of Boone County Medical Society. Dr. Cope received his preliminary education at University of Liverpool and his medical degree at the University of Liverpool in 1954. He completed his residency training Aberdeen Royal Infirmary. He specializes in diagnostic radiology.

■ **Nicholas B. Couper, M.D.,** N315 Anesthesiology, Health Sciences Center, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Couper received his preliminary degree at the University of Virginia and his medical degree at Washington University in 1978. He completed his residency training at the University of Missouri-Columbia. He specializes in anesthesiology.

■ **David C. Dahl, M.D.,** 3621 Gillham Rd., #28, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Dahl received his preliminary education at Augustana College and his medical degree at Southern Illinois University in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in emergency medicine.

■ **Robert M. Doroghazi, M.D.,** Boone Clinic 401 Keene, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Doroghazi received his preliminary education at the University of Illinois and his medical degree at the University of Chicago, Pritzker, in 1977. He completed his residency training at Massachusetts General Hospital, Boston. He specializes in internal medicine and cardiology.

■ **Bernard G. Ewigman, M.D.,** MA 303 Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Ewigman received his preliminary education at the University of Kansas-Lawrence and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at the University of Missouri. He specializes in family practice.

■ **Mark A. Fernandez, M.D.,** 537 NW 55th Terrace, #6, Kansas City 64118, has become a member of the Jackson County Medical Society. Dr. Fernandez received his preliminary education at Eureka College and his medical degree at the University of Illinois in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in internal medicine and pediatrics.

■ **Gregory A. Gagnon, M.D.,** Department of Pathology, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Gagnon received his preliminary education at the University of California-Davis and his medical degree at Louisiana State University-New Orleans in 1982. He is completing his residency training at the University of Missouri-Columbia. He specializes in pathology.

■ **Suzanne P. Hess, M.D.,** 619 E. 63rd Terrace, Kansas City 64110, has become a member of the Jackson County Medical Society. Dr. Hess received her preliminary education at Mars Hill College and her medical degree at East Carolina University in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

■ **Arthur H. Horn, M.D.,** 5R-01 Rusk Rehabilitation Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Horn received his preliminary education at Hunter College and his medical degree at St. George University in 1984. He is completing his residency training at the University of Missouri-Columbia Hospital and Clinics. He specializes in physical medicine and rehabilitation.

■ **Jin B. Kim, M.D.,** 501 Rusk Rehabilitation Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Kim received his preliminary education at Catholic College and his medical degree at Catholic Medical College-Korea in 1977. He is completing his residency training at the University of Missouri-Columbia Rusk Rehabilitation Center. He specializes in physical medicine and rehabilitation.

■ **William R. Kimlinger, M.D.**, Department of Family Medicine, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Kimlinger received his preliminary education at the University of California-Davis and his medical degree at the University of California-San Diego in 1984. He is completing his residency training at the University of Missouri-Columbia Health Science Center. He specializes in family medicine.

■ **Jeffrey J. Kline, M.D.**, Department of Child Health, Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Kline received his preliminary education at Wake Forest University and his medical degree at the University of Maryland in 1972. He completed his residency training at the University of Missouri-Columbia. He specializes in peditrics.

■ **Lawrence A. Kriegshauser, M.D.**, 4949 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kriegshauser received his preliminary education at Regis College and his medical degree at the University of Missouri-Columbia in 1978. He completed his residency training at Washington University. He specializes in orthopedic surgery and sports medicine.

■ **Alexander A. Lising, M.D.**, 5R-01 Rusk Rehabilitation Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Lising received his preliminary education at the University of Philippines and his medical degree at the University of East Roman, Philippines, 1972. He completed his residency training at Nassau County Medical Center, Long Island, N.Y. He specializes in physical medicine and rehabilitation.

■ **Joan H. Mass, M.D.**, 7366 Princeton, University City 63130, has become a member of the St. Louis Metropolitan Medical Society. Dr. Mass received her preliminary education at Washington University and her medical degree at Temple University in 1977. She completed her residency training at Abington Memorial Hospital, Abington, PA. She specializes in internal medicine.

■ **Gerald R. McNamara, M.D.**, Westowne VII, Suite 700, Liberty 64068, has become a member of the Clay-Platte County Medical Society. Dr. McNamara received his preliminary at the University of Arizona and his medical degree at the University of Arizona in 1978. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in orthopaedic surgery.

■ **Vaskar Mukerji, M.D.**, IE-65 Health Sciences Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Mukerji received his preliminary education at Presidency College-Calcutta and his medical degree at Calcutta Medical College, India in 1974. He completed his residency training at St. Joseph Hospital, Chicago. He specializes in internal medicine and cardiology.

■ **Tuyen N. Ngo, M.D.**, One Hospital Dr., 5R-01 Rusk Rehabilitation Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Ngo receved his preliminary education at Saigon University and his medical degree at Saigon University in 1977. He is completing his residency training at the University of Missouri. He specializes in physical medicine and rehabilitation.

■ **Larry Nussbaum, M.D.**, 2525 Glenn Hendren Dr., Liberty 64068, has become a member of the Clay-Platte County Medical Society. Dr. Nussbaum received his preliminary education at the University of Missouri-Kansas City and his medical degree at the University of Missouri-Columbia in 1972. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in pediatrics and pediatric radiology.

■ **Karen K. Phillips, M.D.**, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Phillips received her preliminary education at the University of Nebraska-Lincoln and her medical degree at the University of Nebraska in 1984. She is completing her residency training at the University of Missouri-Columbia. She specializes in internal medicine.

■ **Wendel D. Rankin, D.O.**, P.O. Box 2624, Joplin 64803, has become a member of the Jasper County Medical Society. Dr. Rankin received his preliminary education at the Northeast Missouri State University and his doctor of osteopathic degree at Kirksville College in 1969. He completed his residency training at Mount Clemens General Hospital, Mt. Clemens, Mich. He specializes in internal medicine.

■ **Garry P. Reams, M.D.**, N406 Health Sciences Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Reams received his preliminary education at the University of Illinois-Chicago and his medical degree at the University of Illinois-Peoria in 1978. He completed his residency training at the University of Missouri. He specializes in internal medicine and nephrology/hypertension.

■ **Howard A. Reber, M.D.**, Health Sciences Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Reber received his preliminary education at Temple University and his medical degree at the University of Pennsylvania in 1963. He completed his residency training at the University of Pennsylvania Hospitals, Philadelphia. He specializes in surgery.

■ **Steven J. Rector, M.D.**, 4103 McGee #4, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Rector received his preliminary education at Maharishi International University and his medical degree at the University of Iowa in 1984. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in emergency medicine.

■ **Mark O. Reed, M.D.**, 5R-01 Rusk Rehabilitation Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Reed received his preliminary education at the University of Nebraska-Lincoln and his medical degree at St. George's University in 1983. He is completing his residency training at the University of Missouri. He specializes in physical medicine and rehabilitation.

■ **Margaret M. Rich, M.D.**, 4949 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rich received her preliminary education at Northwestern University and her medical degree at Northwestern University in 1976. She completed her residency at Washington University. She specializes in orthopedic surgery.

■ **Robert L. Rundorff, M.D.**, 5R-01 Rusk Rehabilitation Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Rundorff received his preliminary education at the University of Minnesota and his medical degree at the University of Minnesota in 1984. He is completing his residency training at the University of Missouri-

Columbia. He specializes in physical medicine and rehabilitation.

■ **Anthony S. Shen, M.D.,** 3015 North Ballas Rd., St. Louis 63131, has become a member of the St. Louis Metropolitan Medical Society. Dr. Shen received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1980. He completed his residency training at Barnes Hospital, St. Louis. He specializes in internal medicine and pulmonary diseases.

■ **Jaye M. Shyken, M.D.,** N617 Health Sciences Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Shyken received her preliminary education at Indiana University and her medical degree at the University of Missouri-Columbia in 1980. She completed her residency training at the University of Missouri Hospital and Clinics. She specializes in obstetrics and gynecology.

■ **Joseph W. Stafford, Jr., M.D.,** 127 Jefferson, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Stafford received his preliminary education at Oklahoma Christian College and his medical degree at Oklahoma University in 1980. He completed his residency training at the Oklahoma Childrens Memorial Hospital. He specializes in pediatrics.

■ **Robert T. Tung, M.D.,** 3023 Puckett Rd., #28, Kansas City, KS 66103, has become a member of the Jackson County Medical Society. Dr. Tung received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in internal medicine.

■ **Judith K. Vogelsang, D.O.,** 221 N. Mersington, Kansas City 64123, has become a member of the Jackson County Medical Society. Dr. Vogelsang received her preliminary education at St. Mary College and her doctor of osteopathic degree at the University of Health Services, Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

■ **Sara E. Walker, M.D.,** Veterans Hospital, 800 Hospital Drive, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Walker received her preliminary education at the University of Texas-Austin and her medical degree at the University of Texas-Galveston in 1964. She completed her residency training at Baylor University Affiliated Hospitals, Houston. She specializes in rheumatology.

■ **Richard R. Webel, M.D.,** Cardiology 1E65, Health Sciences Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Webel received his preliminary education at Ohio State University and his medical degree at Ohio State University in 1977. He completed his residency training at Ohio State University Hospitals. He specializes in internal medicine and cardiology.

■ **Steven B. Wilkinson, M.D.,** 8604 Chestnut Circle #1, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Wilkinson received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in internal medicine.

University of Missouri-Kansas City

Douglas A. Coe
Brian Collins

In Memoriam

■ **William H. Ellett, M.D.,** P.O. Box 96, Appleton City 64724, graduate of Washington University, 1930; member of the West Central County Medical Society; age 85; died March 18, 1986.

■ **Emmett F. Hoctor, M.D.,** State Hospital No. 4, Farmington 63640; graduate of Creighton University, 1923; member of the Mineral Area Medical Society; age 89; died May 3, 1986.

Medical School News

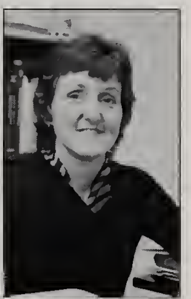
St. Louis University

■ A three year, $218,980 grant has been awarded to **Farhang Payvar, Ph.D.**, assistant professor of biochemistry at St. Louis University School of Medicine, by the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases. The grant will be used to study steroid hormone regulation of gene expression.

Dr. Payvar joined St. Louis University in 1984. Previously, he was a postdoctoral fellow and research scientist at the University of California in San Francisco.

■ **Irene T. Schulze, Ph.D.**, professor of microbiology at St. Louis University School of Medicine, has been named 1986 Woman of the Year by the St. Louis University Women's Commission.

The Woman of the Year citation recognizes one women from the three-campus university for her outstanding contributions. This is the tenth year the award has been given.



An internationally recognized expert on the virus that causes influenza, Dr. Schulze currently is studying the movement of the virus from one species to another. She is working with an $84,000 grant from the National Institute of Allergy and Infectious Diseases.

Along with her teaching responsibilities, Dr. Schulze has served the medical school on numerous committees, including the Medical School Educational Policy Committee and the Credentials Committee, which she chairs. For several years, she also has been active in obtaining funds for minority students to visit the National Institute of Allergy and Infectious Diseases in Washington, D.C.

■ **Frances L. Horvath, M.D.**, dean of the School of Allied Health Professions at St. Louis University, has received an award from the University of Nebraska Medical Center for outstanding service to the allied health professions. The award was presented May 8 in Omaha. It includes a scholarship to be given in Dr. Horvath's name to a student in allied health at the University of Nebraska.

The Outstanding Service Award is awarded each year to an individual who has been instrumental in promoting the concept, growth and development of allied health professions.

In addition to serving as dean of the School of Allied Health Professions for the past six years, Dr. Horvath currently holds faculty appointments in the University's School of Allied Health Professions and School of Medicine, and serves on the AMA's Committee on Allied Heatlh Education and Accreditation.

The University of Missouri-Columbia

■ **Jefferson C. Davis, M.D.**, has received the 29th University of Missouri-Columbia (UMC) Medical Alumni Citation of Merit. Through this award the UMC Medical Alumni Organization honors one past graduate each year for outstanding achievement in the medical profession.

Dr. Davis is director of hyperbaric medicine at Southwest Texas Methodist Hospital in San Antonio and adjunct professor of preventive medicine at the University of Texas School of Public Health in Houston. He is widely recognized as a pioneer in hyperbaric oxygen therapy. Through this innovative therapy, Dr. Davis uses oxygen pressure to treat a wide range of conditions, from problems caused by rapid changes in pressure for scuba divers or aircraft pilots to carbon monoxide poisoning and even serious wounds and burns.

Dr. Davis was a member of the first graduating class of UMC's four-year medical school in 1957. While in the Air Force he founded the USAF Hyperbaric Medicine Center, served as vice-commander of the Aerospace Medical Division at Brooks Air Force Base in San Antonio and received the Air Force Association's Scientist of the Year award. He also has served as president of the Undersea Medical Society, president of the Aerospace Medical Association and president of the American College of Preventive Medicine.

■ Presented during the UMC Medical Alumni Luncheon at the MSMA Annual Meeting in April were the following awards. The Young Physician Alumni Award is given annually to alumni under age 45 who have distinguished themselves in the field of medicine. This year's recipients include **Stephen C. Achuff, M.D.**, who is an associate professor of cardiology at the Johns Hopkins University School of Medicine in Baltimore; **Charles W. Otto, M.D.**, who is an associate professor of anesthesiology at the University of Arizona School of Medicine in Tuscon; and **Timothy N. Taft, M.D.**, an assistant professor of orthopaedic surgery at the University of North Carolina School of Medicine in Chapel Hill.

Receiving the Service Award for distinguished service to his community was **Warren A. Heffron, M.D.**, professor and chairman of the department of family and community medicine at the University of New Mexico School of Medicine in Albuquerque.

The Honorary Alumni Memberships were granted to four individuals who have demonstrated special interest in the School and the Organization. The new honorary alumni are **Royal Cooper**, executive vice president of the Missouri State Medical Association in Jefferson City; **Robert L. Jackson, M.D.**, professor emeritus and past chairman of the UMC department of child health and currently a distinguished professor at the University of Kansas Medical Center in Leawood, KS; **Walter A. German, M.D.**, immediate past president of the Missouri State Medical Association in private practice in Springfield, MO; and **William R. Toler**, president of the UMC Medical School Foundation and retired chief executive officer of Shelter Insurance Company in Columbia, MO.

■ The UMC School of Medicine has a new dean. **Michael E. Whitcomb, M.D.**, started in June as Dean of the School and director of Clinical Services at the University Hospital and Clinics. Dr. Whitcomb has just left the Ohio State University where he was assistant vice president for health services. He has held numerous teaching and administrative positions at Ohio State, the University of Hawaii, Georgetown University and Boston University. He has also served as chief of pulmonary disease service for several hospitals.

■ **Craig E. Eldred, Ph.D.,** research assistant professor of ophthalmology, has received a three-year grant of $349,760 from the National Eye Institute for "Lipofuscinogenesis in the Retinal Pigment Epithelium." The goal of this research is to define the molecular mechanisms underlying age pigment accumulation in the mammalian retinal pigment epithelium.

■ **Gerald T. Perkoff, M.D.,** professor of family and community medicine, has been named program coordinator by The Robert Wood Johnson Foundation for the Foundation's Research and Development Program to Improve Patient Functional Status. Dr. Perkoff will help review grant applications, monitor grantee performance and coordinate activities of the program's advisory committee with activities of grantees. His appointment also includes a one-year grant of $91,293 for his activities in the research.

■ **John C. Schuder, Ph.D.,** professor of surgery, has received a three-year grant of $36,503 from the National Heart, Lung and Blood Institute for "Improved Algorithms for Cardiac Defibrillation Threshold." The goal is to evaluate, in mathematical terms, the limitations of current methods to specify cardiac defibrillation thresholds.

■ **Karl D. Nolph, M.D.,** professor and chief of nephrology, was recognized in the April 14th issue of *US News & World Report* as the nation's expert on Continuous Ambulatory Peritoneal Dialysis (CAPD). CAPD is the process in which dialysis fluid is instilled in a patient's abdominal cavity and then removed in order to filter the blood as a normally functioning kidney does. This process is not as restrictive as hemodialysis. CAPD allows patients with nonfunctioning kidneys to have more mobility.

■ **James M. A. Weiss, M.D.,** professor and chairman of psychiatry, has been appointed Liaison Officer to the Royal College of Psychiatrists of Great Britain by the American College of Psychiatrists, the corresponding professional honor society in the United States. As liaison officer, Dr. Weiss will be responsible for coordinating joint scientific meetings and advising on collaborative research projects and academic interchange. Dr. Weiss is a Foundation Fellow of the British College and a Fellow of the American College. Both groups recognize outstanding accomplishment and service in their respective countries.

■ **Bernard D. Beitman, M.D.,** associate professor of psychiatry, recently presented a paper on "Panic Disorder in Cardiology Patients" at a biological workshop on panic disorder in Washington, D.C. Dr. Beitman also gave a talk on "Combining Pharmacotherapy and Psychotherapy in Clinical Practice" at the fourth annual Missouri Conference on Depression in Kansas City in April.

■ 101 UMC Medical School seniors graduated in ceremonies Saturday, May 17. **Dr. Jack MacPherson Martt,** professor of internal medicine at Texas A & M College of Medicine delivered the commencement address.

■ **Kenneth Cooper, M.D.,** internationally-recognized author and fitness expert, was the featured speaker during a conference on "Aerobics and Total Wellness" at UMC during May. Dr. Cooper's visit, sponsored by UMC's School of Medicine and School of Health Related Professions, brought professionals together to learn more about the importance of staying healthy through exercise.

■ **Herbert E. Brown, Ph.D.,** has been named associate professor emeritus of anatomy, effective September 1, 1986.

■ **David Davis, M.D.,** has been named professor emeritus of psychiatry, effective May 1, 1986.

Washington University

■ **Charles M. Rice, Ph.D.,** virologist and assistant professor of microbiology and immunology at Washington University School of Medicine in St. Louis, has been chosen as one of 20 Pew Scholars in the Biomedical Sciences by the Pew Memorial Trust of Philadelphia.

The 1986 Pew Scholars, junior faculty members at 17 medical school and research institutes in the United States, were selected in recognition of their promising work in basic science or clinical research. Each of the scholars will receive a total of $200,000 over the next four years to encourage research for the advancement of human health.

Rice's work, much of it done while he was a fellow at the California Institute of Technology in Pasadena, uses recombinant DNA technology to unravel the molecular details of how viruses reproduce. This technology opens up new avenues for the design and propagation of live vaccine strains against RNA viruses, including yellow fever virus, Rice explains. Also, he says, it should allow researchers to explore the possible use of these viruses as transmitters for the cytoplasmic expression of foreign genes in animal cells.

The goal of the Pew Memorial Trust is to establish a network of outstanding, innovative researchers who are likely to become future leaders in the scientific community. The Pew Scholars Program is administered at Yale University School of Medicine, and winners are selected by a 13-member national committee.

Rice joined the Washington University faculty earlier this year. He received a Ph.D. in biochemistry from the California Institute of Technology in 1981.

■ During its reunion May 1-3, the Washington University Medical Center Alumni Association presented three alumni achievement awards for contributions to the association and three alumni/faculty awards for career accomplishments.

Recipients of the alumni achievement awards include **Robert M. Filler, M.D., Thomas F. Hornbein, M.D.,** and **Lt. Gen. Kenneth E. Pletcher, M.D.** Alumni/faculty awards were presented to **Marvin E. Levin, M.D., Philip W. Majerus, M.D.,** and **James C. Sisk, M.D.**

Filler, a 1956 graduate of the School of Medicine, is a distinguished pediatric surgeon. He currently serves as surgeon-in-chief at the Hospital for Sick Children in Toronto; professor of surgery and pediatrics at the University of Toronto; consultant in pediatric surgery at the Princess Margaret Hospital in Toronto; and consultant for the Division of Pediatrics at Women's College Hospital in Toronto.

Hornbein is also a member of the class of 1956. He holds joint appointments as professor of anesthesiology, physiology and biophysics at the University of Washington School of Medicine in Seattle. He is also chairman of the school's Department of Anesthesiology. Besides his medical accomplishments, Hornbein was also a member of the first American expedition to climb Mount Everest in May 1963.

Pletcher is a 1936 graduate of the School of Medicine. He has devoted much of his career to the United States military, achieving the distinction of Surgeon General of the United States Air Force from 1966-70. Now retired, he serves as vice-president and associate medical director for Mutual of Omaha in Nebraska.

The alumni association honored Levin for his contributions as a physician, educator and community leader. He received his medical degree in 1951 and currently serves as professor of clinical medicine at the School of Medicine. He is also associate director of the school's Metabolism/Diabetes Clinic and is on staff at Barnes, Jewish and Children's hospitals, sponsoring institutions of the Washington University Medical Center. He is an active participant in the American Diabetes Association and serves as a national board member. For the past three years, Levin has been chairman of the School of Medicine's Eliot Society. Under his leadership, the society completed the second Alumni Endowed Professorship, and it was announced at the Reunion Awards Banquet that a third had just been completed under his direction.

Majerus, a 1961 graduate of the School of Medicine, is professor of medicine and biochemistry at the medical school, and also serves as director of the Division of Hematology and is principal investigator and director of the Washington University Specialized Center for Research in Thrombosis. Majerus recently received the prestigious honor of election to the National Academy of Sciences.

Sisk graduated from the School of Medicine in 1946. He is an associate professor of medicine at the school and is a dermatology specialist. He has served as chairman of the board of directors of Blue Shield and was a member of the voting board of Blue Cross. He also was chairman of the St. Louis County Health and Hospital Advisory Board as well as chairman of the Missouri Medical Political Action Committee. Sisk is past president of the Washington University Alumni Federation and Washington University Medical Center Alumni Association. He is currently a member of the Washington University Deferred Giving Committee.

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COMING

NEXT MONTH: Your 1986-87 MSMA Roster

This Date in Medical History JULY

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1966 Medicare inaugurated in the United States.

2

1739 Jacob de Castro Sarmento receives his doctorate in medicine at Aberdeen. De Castro is one of the Jewish families that furnished a large number of distinguished physicians, many of whom suffered under the Inquisition.

3

1569 William Chamberlen, a Huguenot physician, emigrates from France to England; he and his family would keep the invention of obstetrical forceps a family secret for over a century.

4

1954 The wife of Dr. Samuel Sheppard, an osteopathic neurosurgeon, is murdered; forensic serology findings that would have cleared him are ignored at the trial.

1840 Karl Ferdinand vonGräfe, Polish surgeon and ophthalmologist, the Father of Modern Plastic Surgery, dies. In 1818 he perfected the first satisfactory technique of rhinoplasty; he also made contributions to the development of blood transfusion, caesarean section and cleft palate repair. His son Albrecht was one of the greatest ophthalmologic surgeons of the century.

1934 Madame Curie dies a victim of the radioactive substances she had discovered.

5

1650 Thomas Willis (1621-1675) writes the first description of manic-depressive psychosis.

1948 Britain's National Health Insurance goes into effect.

8

1776 Dominique Jean Larrey, French military surgeon who invented field hospitals and "flying ambulances," is born. In 1802 he called attention to the contagiousness of trachoma and in 1812 he published the first description of trench foot. He espoused the use of maggots to treat wound infections and had a humeral amputation named for him. He was wounded three times on the battlefield.

10

1873 Théodore Simon, French physician who with Alfred Binet (1857-1911) devised the first objective measure of intelligence in children to show "the benefits of instruction for defective children" (1905), is born.

1767 Alexander Monro, Scottish physician who founded the first medical school in Britain and began a medical dynasty of Monros in Edinburgh, dies.

12

1856 Augustus Désiré Waller, French physiologist who was the first to use electrodes to study current patterns of the heart, is born.

14

1883 The first issue of the *Journal of the American Medical Association is printed.*

16

1877 Bela Schick, Viennese born American pediatrician who developed a test for diphtheria, is born. "Children are not simply micro-adults, but have their own specific problems."

19

1832 The British Medical Association is founded.

21

1768 William Heberden communicates to the College of Physicians a paper entitled "Pectus Dolor or Angina Pectoris." It was published in 1772.

1637 Daniel Sennert, German physician who performed the first authenticated caesarian section on a living woman, dies.

25

1778 John Hunter publishes his *The Natural History of the Human Teeth* together with *A Practical Treatise on the Diseases of the Teeth*. Hunter invented the use of braces for the correction of dental malocclusion.

1978 Louise Brown, the first artificially conceived (outside of the womb) fetus is born. Birthweight was 5 pounds, 12 ounces, gynecologist was Patrick Steptoe, physiologist was Robert Edwards.

27

1893 Dr. Mary Corinna Putnam marries Dr. Abraham Jacobi. Dr. Jacobi was the father of American pediatrics and wrote a history of American pediatrics. Dr. Putnam was referred to by William Osler as a "modern Trotula, a woman in the profession with an intellect so commanding that she will take rank with the Harveys, the Hunters, the Pasteurs, the Virchows, and the Listers." (Madame Trotte de Salerne was a legendary female medicus of the School of Salerno.) Dr. Putnam was the first woman admitted to the Ecole de Medicine at Paris (from which she graduated with honors) and the foundress of the Association for the Advancement of the Medical Education of Women.

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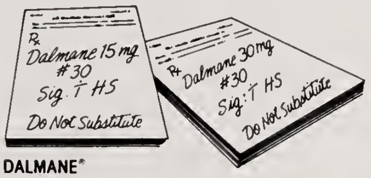

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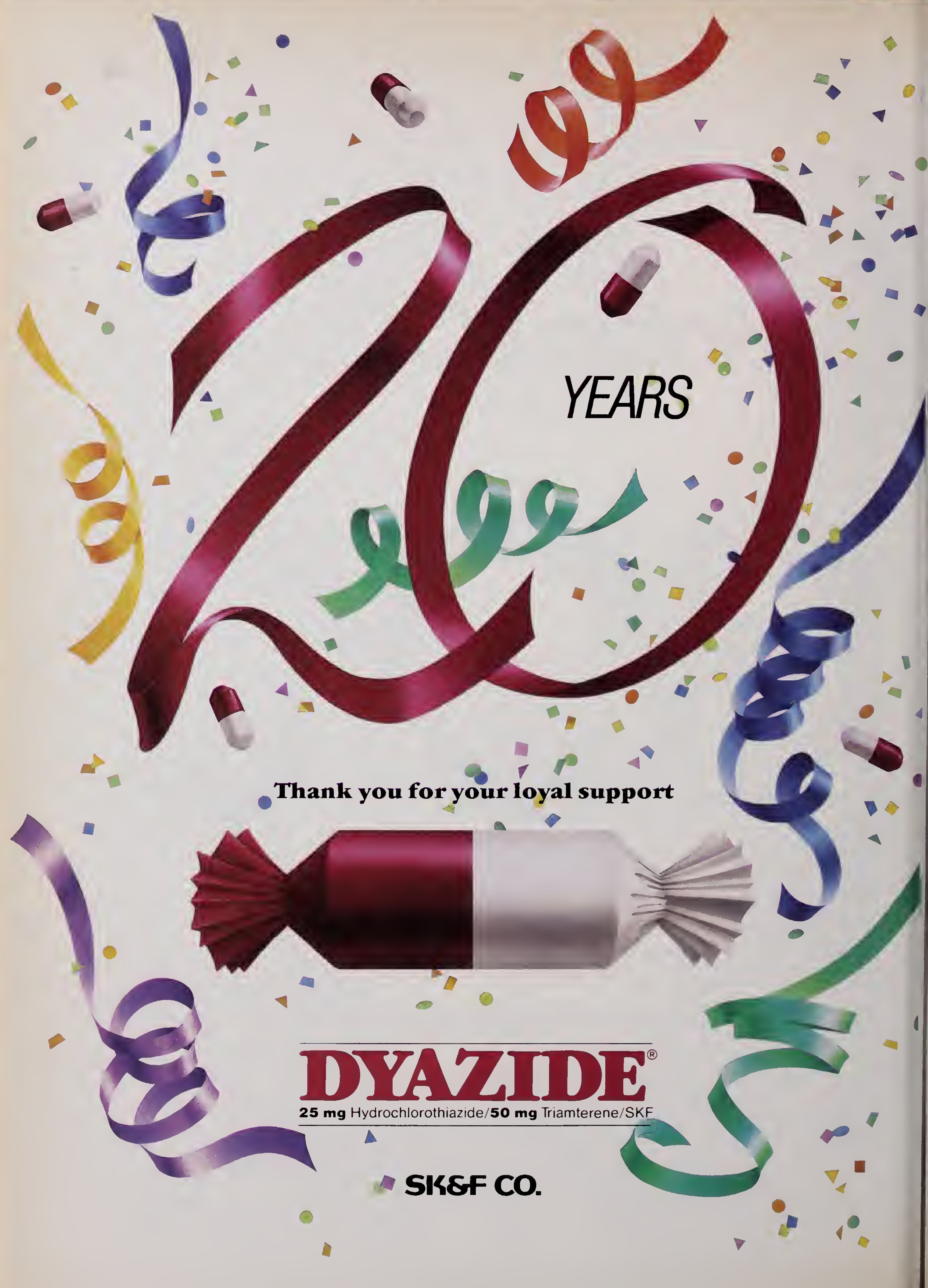
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Your Directory

Most regular features of Missouri Medicine have been eliminated for this issue only as we have focused on information used daily by Missouri physicians. Reviewing the Contents page, you will see the following information included in this issue. We have listed a brief explanation of each section here:

MSMA Officers, AMA Delegates and Alternates, MSMA Councilors and Vice Councilors — This photo feature assists you in identifying the leaders and representatives of MSMA.

Code Numbers for Component Medical Societies — Every MSMA member is listed in two rosters in this issue: alphabetically and by component medical society. In the alphabetical listing, the number following the physician's name corresponds with the numerical heading where the second listing is found. For example, a physician practicing in Columbia would have the code 026 following his alphabetical listing to show that he is featured in the Boone County listing in the second roster section. This code number chart also shows the page number of each component medical society section.

Designated Specialty Codes — These abbreviations follow a physician's name to show the medical specialty.

Councilor Districts and Counties in Each District — The map shows the geographical divisions for each MSMA Councilor District. The names of the Councilors for those districts and the counties in their area are listed.

Component Medical Societies and Officers — A quick reference of the physicians in charge of local medical societies throughout the state.

Guide to Component Medical Societies — An alphabetical list of Missouri communities and their corresponding component medical society.

MSMA Committees and Commissions — A complete listing of the members of each committee and commission for 1986-87.

Reporting Communicable Diseases — Guidelines from the Missouri Department of Health of what, when, and where to report specified health information.

Directory of Medical Specialty Organizations — A list of each state specialty organization, the president's name and address, and meeting information, if available.

Directory of Metropolitan Specialty Organizations — A list of each metropolitan specialty organization, the president's name and address, and meeting information, if available.

Insurance Plans Available to MSMA Members — Type of coverage, underwriter and administrator is listed for each plan.

Missouri Volunteer Health Agencies — These groups provide assistance in the form of free or specialized equipment, rehabilitation training, counseling, specialized care, or information. These are listed so that our members may refer their patients to these services.

Alphabetical Roster — All members are listed by their last name followed by the code number and the name of their component medical society.

Component Society Roster — Sectioned according to component medical society, the physician's name, address, telephone number and medical specialty code appear here. ■

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Dodson Insurance Group	1-800-892-3431
E. F. Hutton	*(Call collect)* 314/725-9690
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Health Care Financing Administration	816/374-5233
Intrav	314/727-0500
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Medicare Provider Relations	1-800-392-3070
Missouri Department of Health	314/751-2335
Missouri Department of Social Services	314/751-2086
Missouri Patient Care Review Foundation	*(Preadmission)* 1-800-392-8060 *(General Info)* 1-800-392-1312
Missouri State Bureau of Narcotics and Dangerous Drugs	314/751-8042
Missouri State Board of Registration of the Healing Arts	314/751-2334

Cover

"**Blossoms**," photographed in southern Missouri by Assistant Attorney General **Bob Lindholm** of *Jefferson City*. Lindholm received the Sierra Club's prestigious Ansel Adams Award for 1986 for the use of photographs to further the cause of conservation. His photographs are in public and private collections throughout the United States.

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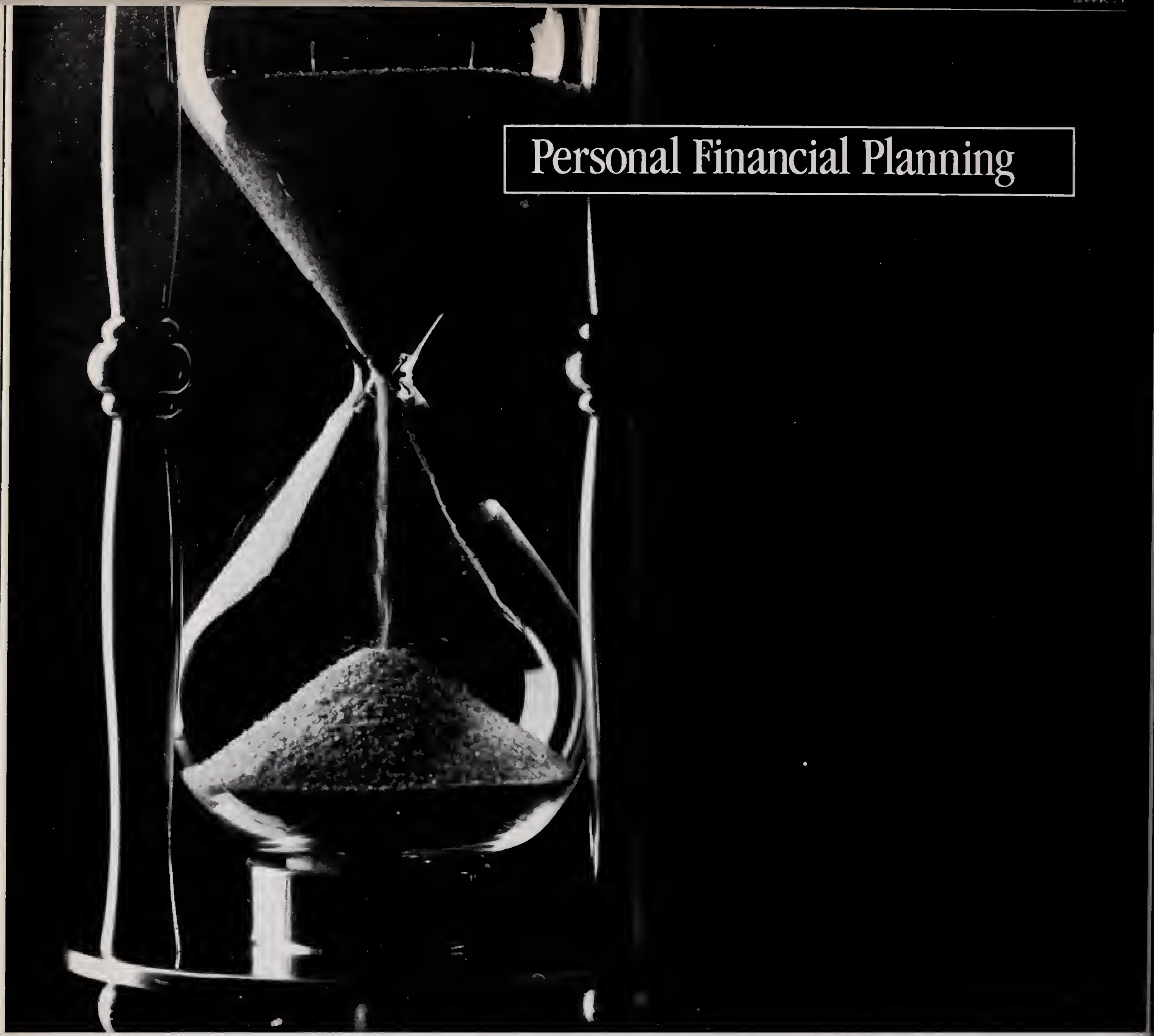

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Fairchild Installed as MAFP President

The Missouri Academy of Family Physicians recently installed Perryville physician, J. Fred Fairchild, M.D., as its thirty-eighth President.

Dr. Fairchild, was installed June 14 by Richard Inskip, Reno, Nevada, President of the AAFP, the national parent organization of the Missouri Academy of Family Physicians.

Dr. Fairchild is a graduate of the University of Missouri and Northwestern University Medical Schools. He has been in private practice in Perryville for more than 30 years. During that time he and his wife Anna Margaret, an R.N. and also a native of Perryville, have been very active in community affairs. He serves as a preceptor for both the UMC and UMKC Medical Schools. He has been an Academy member since 1955. He is a Charter Fellow of the American Academy as well as a Diplomate of the American Board of Family Practice. He has served the Missouri Academy as Director, Secretary-Treasurer, Vice President and President-Elect.

The installation ceremonies culminated the Missouri Academy's Annual meeting at Marriott's Tan-Tar-A Resort at Osage Beach, Missouri. As President, Dr. Fairchild succeeds Dr. William C. Allen, M.D., Columbia, who steps up to Chairman of the Board of Directors of the statewide group of Family Physicians. Other officers installed at the meeting were Monty Durnell, M.D., Lee's Summit, President-Elect; R. Raymond Lyle, M.D., Versailles, Vice President; Directors — Jim Deline, M.D., Macon; Thomas A. Johnson, M.D., St. Louis; Kenneth F. Scott, Jr., M.D., Clinton; Bruce Preston, M.D., West Plains; William England, M.D., Columbia, Resident Director and Richard Paul, Washington University, Student Director; Delegates — J. Max Haight, M.D. and Stacy Long, M.D., both of Kansas City; Alternate Delegates — William C. Allen, M.D., Columbia, and Arturo Montes, M.D., St. Louis. ■

Richard Inskip, M.D., AAFP president, installs J. Fred Fairchild, M.D., Perryville, as president of the Missouri Academy of Family Physicians.

Bradshaw Honored

At the June installation and award ceremonies culminating the Missouri Academy of Family Physicians' annual meeting at Tan-Tar-A, Dr. William C. Allen, outgoing President and current Chairman of the Board, presented Dr. William D. Bradshaw, Columbia, with the 1986 Missouri Academy of Family Physicians "Award of Recognition."

Dr. Bradshaw has been committed to the specialty of Family Practice from the time he became a member of the American Academy of General Practice in 1955. He developed a busy practice and at the same time was active in MSMA, served as a preceptor for medical students from UMC, served on the State Board of Health and was involved in many civic activities as well.

Ever committed to continuing medical education and with a desire to teach, he was totally committed to quality patient care. Dr. Bradshaw became Associate Professor in the Department of Family and Community Medicine and Director of Continuing Medical Education and Extension for Health Affairs at the UMC School of Medicine. In 1983 he was selected as Interim Dean of the School of Medicine and in 1984 was appointed Dean. He currently represents the AMA on the Family Medicine Residency Review Committee. He's listed in Who's Who International. ■

New Section 1867 under COBRA

Failure to comply with new regulations regarding the examination and treatment of patients in the emergency room can result in a $25,000 fine and termination of Medicare agreements under the recently passed Consolidated Omnibus Budget Reconciliation Act (COBRA).

Under the new Section 1867, if any individual (regardless of Medicare eligibility) comes to an emergency room and requests treatment, the hospital personnel must examine him or her and determine whether a medical emergency exists, or, if a woman, whether she is in active labor.

Once the determination has been made, the hospital must offer further stabilizing medical treatment. Alternatively, a transfer to another medical facility may be arranged.

If a hospital fails to meet these requirements, the institution is subject to termination or suspension of its Medicare provider agreement. Both hospital and "responsible physician" are liable for civil penalties of not more than $25,000 per violation.

If the patient refuses consent for treatment or transfer, then the hospital is considered to have met the requirements of this rule as long as the appropriate treatment was offered. ■

General American-Consultec has new address

In an effort to expedite claims processing, providers should mail all HCFA-1500 claim forms to the following address:

General American-
Consultec
P.O. Box 5600
Jefferson City, MO 65102 ■

Interferon approved

For the first time in the United States, interferon has been approved for use in treating a cancer.

'Intron A,' the genetically derived alpha-2 interferon developed and produced by Schering-Plough Corporation, has been approved in the United States for treatment of hairy cell leukemia, and is being marketed immediately.

Commenting on the historic event of the approval to market 'Intron A,' Robert P. Luciano, chairman and chief executive officer, said, "It has been almost 30 years since interferon was discovered. While the approved indication — hairy cell leukemia — is relatively rare, this approval confirms our long-held belief, supported by research and clinical findings, that alpha-2 interferon is an effective form of therapy with an important role to play in modern medicine." ■

Perlmutter Named Nabisco Scholar

David H. Perlmutter, M.D., has been named one of three 1986 recipients of RJR Nabisco Research Scholars Awards. He is an assistant in pediatrics, Division of Gastroenterology & Nutrition, at Children's Hospital at Washington University Medical Center.

The awards were established by RJR Nabisco Inc. to aid young scientists in research related to immunology and chronic pulmonary disease. The awards were announced by corporate executives in Winston-Salem, N.C., on June 30.

Dr. Perlmutter will receive an unrestricted award of $75,000 annually for three years to fund his studies of molecular regulation of alpha-1-antitrypsin during inflammation and of the cellular defect in alpha-1-antitrypsin deficiency.

Dr. Perlmutter, 34, is a graduate of St. Louis University School of Medicine and an assistant professor of pediatrics, cell biology and physiology, at Washington University School of Medicine. He recently came to the Children's Hospital from Harvard Medical School, where he was assistant professor of pediatrics. ■

Bunge receives Javits Award

Richard P. Bunge, M.D., professor of anatomy and neurobiology at Washington University School of Medicine in St. Louis, will conduct research for the next seven years with more than $900,000 in funding from a Javits Neuroscience Investigator Award.

The U.S. Congress gives the awards in honor of Sen. Jacob K. Javits of New York, on recommendation of the National Advisory Neurological and Communicative Disorders and Stroke Council of the National Institutes of Health. Javits is a victim of amyotrophic lateral sclerosis (ALS), more commonly known as Lou Gehrig's disease.

The Javits awards, given to investigators who have submitted regular research grant applications for competitive review, encourage research and research training in communicative and neurological disorders. The prestigious grants provide a seven-year commitment of support to the researchers who receive them.

Bunge is Beaumont-May Institute of Neurology Scholar in Anatomy at the School of Medicine. His grant will allow detailed studies of the biology of the cell of Schwann, the predominant helper-cell to the nerve fibers of the peripheral nervous system. Bunge holds bachelor's and master's degrees from the University of Wisconsin-Madison, and a medical degree from the University of Wisconsin Medical School in Madison. ■

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Number of Physicians ______________________________

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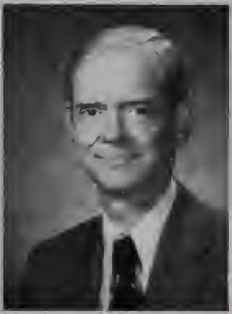
1986-87 Missouri State Medical Association

THE PURPOSE of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, the organization of its membership for negotiation and collective bargaining purposes, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

L. G. Pipergerdes, M.D.
President-Elect



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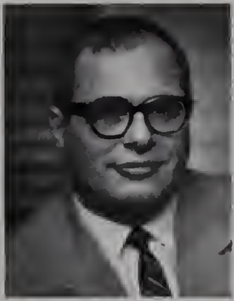
Immediate Past-President

Hugh E. Stephenson, Jr.
Vice-President



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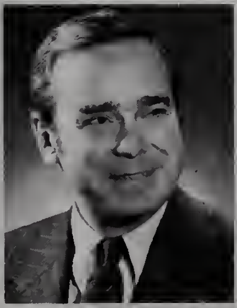

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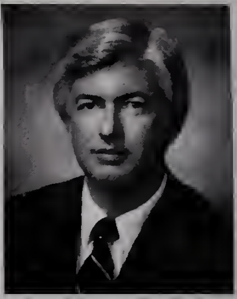
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Bradley Freilich
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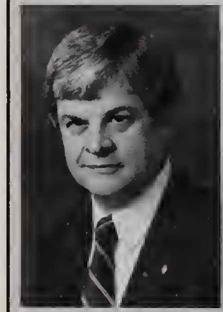
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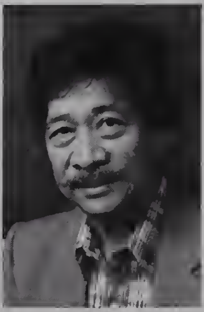
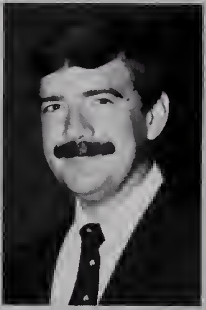
Carl R. Kruse
Palmyra


Arturo Montes
Florissant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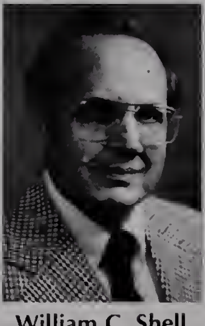
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West Plains

Dean Blakely
UMC Student

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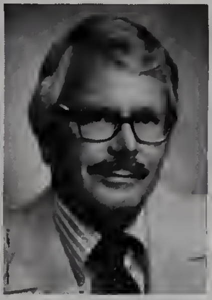
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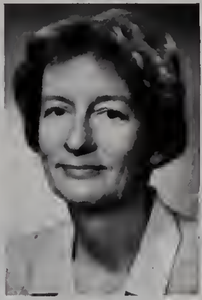
William H. Huffaker
Third District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David Wilkinson
Third District

J. Otto Lottes
Third District

Theodore L. Paletta
Third District

Frederick Peterson
Third District

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Fourth District

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Fifth District

Alan F. Braun
Fifth District

A. J. Campbell
Sixth District

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Seventh District

Frederick Hahn
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Seventh District

Robert T. Gibbons Jr.
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Francis M. Corry
Eighth District

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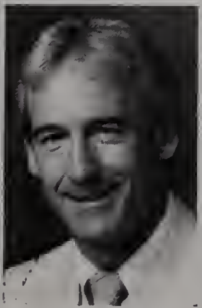
Eighth District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Code Numbers

for Component Medical Societies

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Physician Rehabilitation Program Directory

For information concerning the Physician Rehabilitation Program of MSMA or to get help for an impaired colleague, yourself or your spouse, please contact the MSMA Impaired Physician Hotline or the contact person in your area. All information and identities will be held in strictest confidence, and the caller need not identify himself or herself.

Eileen Duggan, M.D., Director, *Kansas City*	(816) 234-3683
John J. O'Hearne, M.D., *Kansas City*	(816) 531-7020
John P. Carmody, M.D., *St. Louis*	(314) 965-7440
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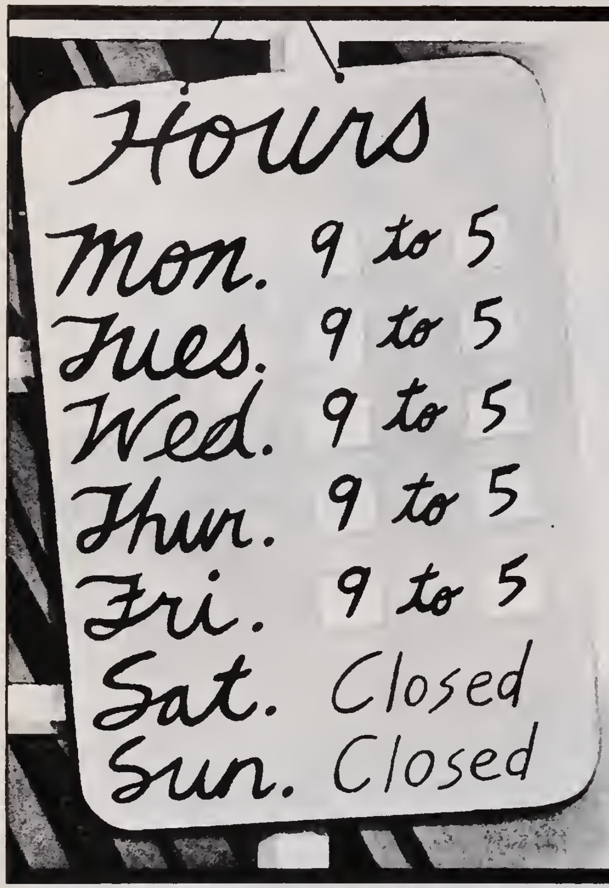
Carroll Patterson, M.D., *Liberty*	(816) 781-1100
Henry F. Domke, M.D., *Jefferson City*	(314) 634-5000
Missouri State Medical Association Physician Rehabilitation Hotline, *Jefferson City*	(314) 636-5744



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City ____________ State ____________ ZIP ____________

Phone: (   ) ____________ Best time to call: ____________

Designated Specialty Codes

The following specialties are recognized by the American Medical Association.

A	Allergy
ABS	Abdominal Surgery
ADL	Adolescent Medicine
AI	Allergy and Immunology
AM	Aerospace Medicine
AN	Anesthesiology
BE	Broncho-Esophagology
BLB	Bloodbanking
CD	Cardiovascular Diseases
CDS	Cardiovascular Surgery
CHN	Child Neurology
CHP	Child Psychiatry
CLP	Clinical Pathology
CRS	Colon and Rectal Surgery
D	Dermatology
DIA	Diabetes
DMP	Dermatopathology
DR	Diagnostic Radiology
EM	Emergency Medicine
END	Endocrinology
FOP	Forensic Pathology
FP	Family Practice
GE	Gastroenterology
GER	Geriatrics
GP	General Practice
GPM	General Preventive Medicine
GS	General Surgery
GYN	Gynecology
HEM	Hematology
HNS	Head and Neck Surgery
HS	Hand Surgery
HYP	Hypnosis
ID	Infectious Diseases
IG	Immunology
IM	Internal Medicine
LAR	Laryngology
LM	Legal Medicine
MFS	Maxillofacial Surgery
N	Neurology
NA	Neuropathology
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NPM	Neonatal-Perinatal Medicine
NR	Nuclear Radiology
NS	Neurological Surgery
NTR	Nutrition
OBG	Obstetrics and Gynecology
OBS	Obstetrics
OM	Occupational Medicine
ON	Oncology
OPH	Ophthalmology
ORS	Orthopedic Surgery
OS	Other, i.e., physician designated a specialty other than appearing here.
OT	Otology
OTO	Otorhinolaryngology
P	Psychiatry
PA	Clinical Pharmacology
PD	Pediatrics
PDA	Pediatric Allergy
PDC	Pediatric Cardiology
PDE	Pediatric Endocrinology
PDR	Pediatric Radiology
PDS	Pediatric Surgery
PH	Public Health
PHO	Pediatric Hematology-Oncology
PM	Physical Medicine and Rehabilitation
PNP	Pediatric Nephrology
PS	Plastic Surgery
PSF	Facial Plastic Surgery
PTH	Pathology
PUD	Pulmonary Diseases
PYA	Psychoanalysis
PYM	Psychosomatic Medicine
R	Radiology
RHI	Rhinology
RHU	Rheumatology
RIP	Radioisotopic Radiology
TR	Therapeutic Radiology
TRS	Traumatic Surgery
TS	Thoracic Surgery
U	Urological Surgery

Note: No code will appear for those physicians who have not designated a specialty.

Letters to the Editor

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Write: "Letters to the Editor"
Missouri Medicine
P.O. Box 1028
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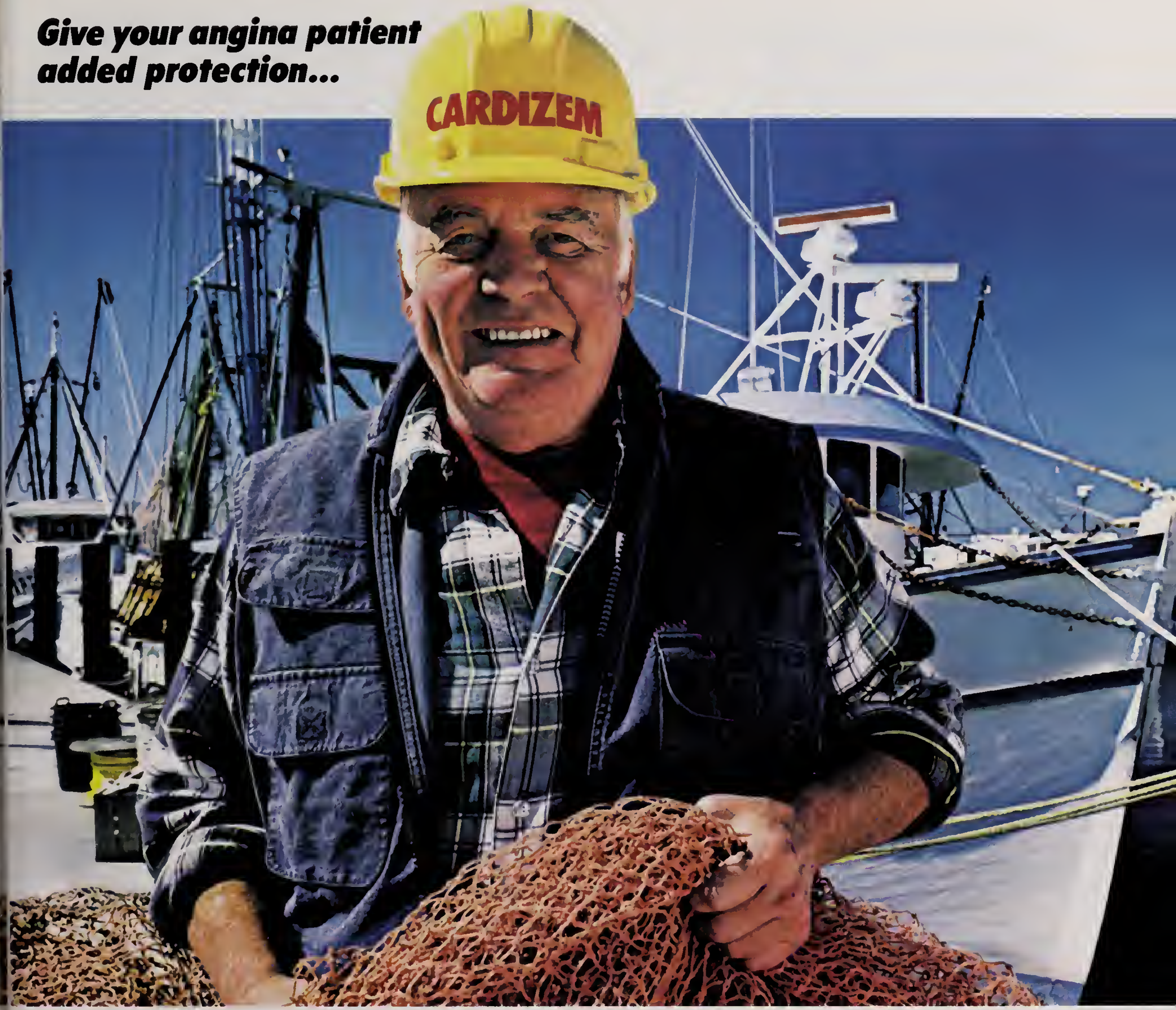
Give your angina patient added protection...



CARDIZEM®: FEWER SIDE EFFECTS

diltiazem HCl/Marion

- ***The lowest incidence of side effects among the calcium channel blockers***[1-6]
- ***A safe choice for angina patients with coexisting hypertension, asthma, COPD, or PVD***[4,7]
- ***Proven efficacy when used alone in angina***[3]
- ***Compatible with other antianginals***[8,9]*

***See Warnings and Precautions.**

Please see brief summary of prescribing information on the next page.

CARDIZEM® diltiazem HCl/Marion

FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

60 mg tid or qid

Brief Summary
Professional Use Information
CARDIZEM®
(diltiazem HCl) 30 mg and 60 mg Tablets

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). An acute study of oral diltiazem in patients with impaired ventricular function (ejection fraction 24% ± 6%) showed improvement in indices of ventricular function without significant decrease in contractile function (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is limited. Caution should be exercised when using the drug in such patients.*
3. **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 11/85*

See complete Professional Use Information before prescribing.

References: 1. *Frishman WH, Charlap S, Goldberger J, et al: Comparison of diltiazem and nifedipine for both angina pectoris and systemic hypertension. Am J Cardiol 1985;56:41H-46H.* **2.** *Weiner DA, McCabe CH, Cutler SS, et al: The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. Clin Cardiol 1985;7:648-653.* **3.** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983;106(6):1341-1347.* **4.** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* **5.** *McCall D, Walsh RA, Frohlich ED, et al: Calcium entry blocking drugs: Mechanisms of action, experimental studies and clinical uses. Curr Probl Cardiol 1985;10(8):6-80.* **6.** *Chaffman M, Brogden RN: Diltiazem. A review of its pharmacological properties and therapeutic efficacy. Drugs 1985;29:387-454.* **7.** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50 (Sept):94-116.* **8.** *Shapiro W: Calcium channel blockers. Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* **9.** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.*

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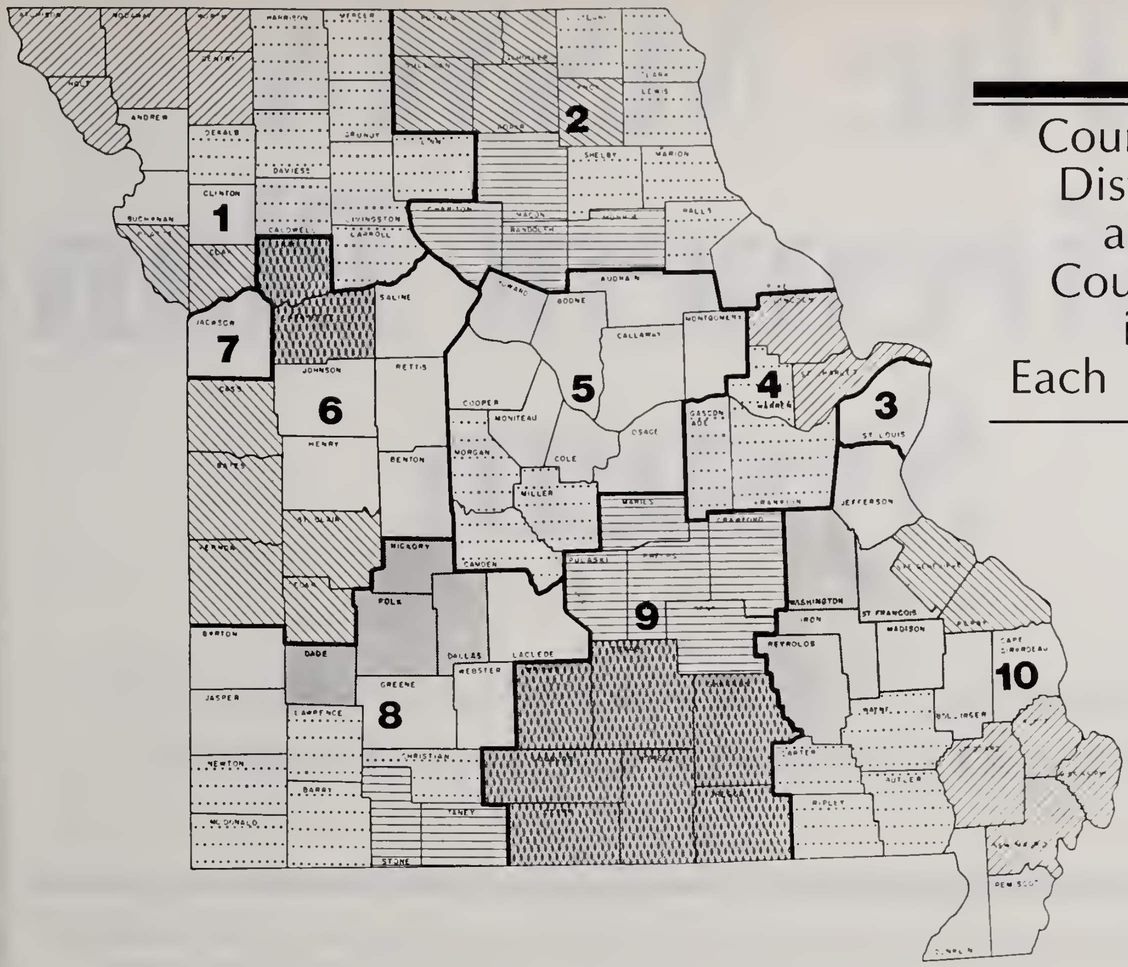

Councilor Districts and Counties in Each District

DISTRICT	COUNCILOR	COUNTIES
FIRST	**Richard C. Hedges, M.D.,** *N. Kansas City*	Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, DeKalb, Gentry, Grundy, Harrison, Holt, Linn, Livingston, Mercer, Nodaway, Platte and Worth
SECOND	**Robert V. Tompson, M.D.,** *Moberly*	Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby and Sullivan
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FIFTH	**Kenneth L. Rall, M.D.,** *Columbia* **Alan L. Braun, M.D.,** *Jefferson City*	Audrain, Boone, Callaway, Camden, Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan and Osage*
SIXTH	**A. J. Campbell, M.D.,** *Sedalia*	Bates, Benton,* Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline and Vernon
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NINTH	**O. Martin Hasek, M.D.,** *West Plains*	Crawford, Dent, Douglas, Howell, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon,* Texas and Wright
TENTH	**Melvin C. Kasten, M.D.,** *Poplar Bluff*	Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Iron, Jefferson, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington and Wayne

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* Counties with no medical organization.

The MSMA Retirement Plan System

A membership benefit offered in conjunction with Trust Consultants, Inc. and EF Hutton

The Missouri State Medical Association has made special arrangements to provide high quality retirement plan services for use by its members. The system is available to both incorporated and unincorporated members and offers a full range of plan design, administration, and investment options. The following are some of the attractive features of the system:

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- Self-trusteeship of plans
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- Complete administration
- Access to country's top money managers.

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Guide to Component Medical Societies

Following is a list of Missouri communities in which MSMA member-physicians are in active practice or reside. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community normally would belong.

Town	*County*	*Medical Society*
	A	
Advance	Stoddard	SEMO
Affton	St. Louis	St. Louis Metropolitan
Albany	Gentry	Northwest Missouri
Altenburg	Perry	Perry-Ste. Genevieve
Appleton City	St. Clair	West Central
Arnold	Jefferson	Jefferson
Arrow Rock	Saline	Saline
Ashland	Boone	Boone
Augusta	St. Charles	St. Charles-Lincoln
Aurora	Lawrence	Ozarks
Ava	Douglas	South Central
	B	
Ballwin	St. Louis	St. Louis Metropolitan
Bethany	Harrison	Grand River
Blue Springs	Jackson	Jackson
Bolivar	Polk	Dallas-Hickory-Polk-Dade
Bonne Terre	St. Francois	Mineral Area
Boonville	Cooper	Cooper
Branson	Taney	Tri-Lakes
Brentwood	St. Louis	St. Louis Metropolitan
Bridgeton	St. Louis	St. Louis Metropolitan
Brookfield	Linn	Grand River
Brunswick	Chariton	Chariton-Macon-Monroe-Randolph
Buffalo	Dallas	Dallas-Hickory-Polk-Dade
Butler	Bates	West Central
	C	
Cabool	Texas	South Central
Cainsville	Harrison	Grand River
California	Moniteau	Moniteau
Camdenton	Camden	Lake of the Ozarks
Cape Girardeau	Cape Girardeau	Cape Girardeau
Cardwell	Dunklin	Dunklin
Carrollton	Carroll	Grand River
Carthage	Jasper	Jasper
Caruthersville	Pemiscot	Pemiscot
Cassville	Barry	Ozarks
Centralia	Boone	Boone
Charlack	St. Louis	St. Louis Metropolitan
Charleston	Mississippi	SEMO
Chesterfield	St. Louis	St. Louis Metropolitan
Chillicothe	Livingston	Grand River
Clayton	St. Louis	St. Louis Metropolitan
Climax Springs	Camden	Lake of the Ozarks
Clinton	Henry	Henry
Columbia	Boone	Boone
Concordia	Lafayette	Lafayette-Ray
Crestwood	St. Louis	St. Louis Metropolitan
Creve Coeur	St. Louis	St. Louis Metropolitan
Crystal City	Jefferson	Jefferson
Cuba	Crawford	Mid-Missouri
	D	
Deepwater	Henry	Henry
Desloge	St. Francois	Mineral Area
DeSoto	Jefferson	Jefferson
Dexter	Stoddard	SEMO
Doniphan	Ripley	Butler-Wayne-Ripley-Carter

Town	*County*	*Medical Society*
	E	
East Prairie	Mississippi	SEMO
Edina	Knox	North Central
Eldon	Miller	Lake of the Ozarks
El Dorado Springs	Cedar	West Central
Ellington	Reynolds	Mineral Area
Ellisville	St. Louis	St. Louis Metropolitan
Elsberry	Lincoln	St. Charles-Lincoln
Eureka	St. Louis	St. Louis Metropolitan
Excelsior Springs	Clay	Clay-Platte
	F	
Fairdealing	Ripley	Butler-Wayne-Ripley-Carter
Fairfax	Atchison	Northwest Missouri
Farber	Audrain	Audrain
Farmington	St. Francois	Mineral Area
Fayette	Howard	Howard
Fenton	St. Louis	St. Louis Metropolitan
Ferguson	St. Louis	St. Louis Metropolitan
Festus	Jefferson	Jefferson
Flat River	St. Francois	Mineral Area
Florissant	St. Louis	St. Louis Metropolitan
Fordland	Webster	Webster
Forsyth	Taney	Tri-Lakes
Fort Leonard Wood	Pulaski	Mid-Missouri
Fredericktown	Madison	Mineral Area
Frontenac	St. Louis	St. Louis Metropolitan
Fulton	Callaway	Callaway
	G	
Galena	Jackson	Jackson
Gallatin	Daviess	Grand River
Gladstone	Clay	Clay-Platte
Glasgow	Howard	Howard
Glendale	St. Louis	St. Louis Metropolitan
Grandview	Jackson	Jackson
Grant City	Worth	Northwest
Greenwood	Jackson	Jackson
	H	
Hamilton	Caldwell	Grand River
Hannibal	Marion	Marrion-Ralls-Shelby
Harrisburg	Boone	Boone
Harrisonville	Cass	West Central
Hartsburg	Boone	Boone
Hayti	Pemiscot	Pemiscot
Hazelwood	St. Louis	St. Louis Metropolitan
Herculaneum	Jefferson	Jefferson
Hermann	Gasconade	Franklin-Gasconade-Warren
Higginsville	Lafayette	Lafayette-Ray
High Ridge	St. Louis	St. Louis Metropolitan
Hillsboro	Jefferson	Jefferson
Holden	Johnson	Johnson
Holts Summit	Callaway	Callaway
Hornersville	Dunklin	Dunklin
House Springs	St. Louis	St. Louis Metropolitan
Houston	Texas	South Central
Huntsville	Randolph	Chariton-Macon-Monroe-Randolph

Town	*County*	*Medical Society*
I		
Independence	Jackson	Jackson
Ironton	Iron	Mineral Area
J		
Jackson	Cape Girardeau	Cape Girardeau
Jefferson City	Cole	Cole
Joplin	Jasper	Jasper
K		
Kansas City	Jackson	Jackson
Kennett	Dunklin	Dunklin
Kimberling City	Stone	Tri-Lakes
Kirksville	Adair	North Central
Kirkwood	St. Louis	St. Louis Metropolitan
Knob Noster	Johnson	Johnson
L		
LaGrange	Lewis	Northeast
Lamar	Barton	Barton
Lebanon	Laclede	Laclede
Lee's Summit	Jackson	Jackson
Lemay	St. Louis	St. Louis Metropolitan
Lexington	Lafayette	Lafayette-Ray
Liberty	Clay	Clay-Platte
Linn	Osage	Cole
Louisiana	Pike	Pike
Lutesville	Bollinger	Mineral Area
M		
Macon	Macon	Chariton-Macon-Monroe-Randolph
Malden	Dunklin	Dunklin
Manchester	St. Louis	St. Louis Metropolitan
Mansfield	Wright	South Central
Maplewood	St. Louis	St. Louis Metropolitan
Marceline	Linn	Grand River
Marionville	Lawrence	Ozarks
Marshall	Saline	Saline
Marshfield	Webster	Webster
Marthasville	Warren	Franklin-Gasconade-Warren
Maryland Heights	St. Louis	St. Louis Metropolitan
Maryville	Nodaway	Northwest Missouri
Mexico	Audrain	Audrain
Moberly	Randolph	Chariton-Macon-Monroe-Randolph
Monett	Barry	Ozarks
Monroe City	Monroe	Chariton-Macon-Monroe-Randolph
Mound City	Holt	Northwest Missouri
Mount Vernon	Lawrence	Ozarks
Mountain Grove	Wright	South Central
N		
Neosho	Newton	Ozarks
Nevada	Vernon	West Central
New Haven	Franklin	Franklin-Gasconade-Warren
New London	Ralls	Northeast
Nixa	Christian	Ozarks
Normandy	St. Louis	St. Louis Metropolitan
North Kansas City	Clay	Clay-Platte
O		
Oak Grove	Jackson	Jackson
Odessa	Lafayette	Lafayette-Ray
O'Fallon	St. Charles	St. Charles-Lincoln
Osage Beach	Camden	Lake of the Ozarks
Osceola	St. Clair	West Central
Overland	St. Louis	St. Louis Metropolitan
Owensville	Gasconade	Franklin-Gasconade-Warren
P		
Pacific	Franklin	Franklin-Gasconade-Warren
Palmyra	Marion	Northeast
Paris	Monroe	Chariton-Macon-Monroe-Randolph
Parkville	Platte	Clay-Platte
Perryville	Perry	Perry-Ste. Genevieve
Pierce City	Lawrence	Ozarks
Platte City	Platte	Clay-Platte
Plattsburg	Clinton	Clinton
Pleasant Hill	Cass	West Central
Poplar Bluff	Butler	Butler-Wayne-Ripley-Carter
Portageville	New Madrid	SEMO
Potosi	Washington	Mineral Area
Puxico	Stoddard	SEMO
R		
Raymore	Cass	West Central
Raytown	Jackson	Jackson
Reeds Spring	Stone	Tri-Lakes
Republic	Greene	Greene
Richland	Pulaski	Mid-Missouri
Richmond	Ray	Lafayette-Ray
Richmond Heights	St. Louis	St. Louis Metropolitan
Rocheport	Boone	Boone
Rock Port	Atchison	Northwest
Rogersville	Webster	Webster
Rolla	Phelps	Mid-Missouri
Rosendale	Andrew	Andrew
S		
St. Ann	St. Louis	St. Louis Metropolitan
St. Charles	St. Charles	St. Charles-Lincoln
St. Clair	Franklin	Franklin-Gasconade-Warren
Ste. Genevieve	Ste. Genevieve	Perry-Ste. Genevieve
St. Joseph	Buchanan	Buchanan
St. Louis	St. Louis	St. Louis Metropolitan
St. Peters	St. Charles	St. Charles-Lincoln
Salem	Dent	Mid-Missouri
Sarcoxie	Jasper	Jasper
Savannah	Andrew	Andrew
Sedalia	Pettis	Pettis
Shelbina	Shelby	Northeast
Shell Knob	Barry	Ozarks
Shrewsbury	St. Louis	St. Louis Metropolitan
Sikeston	Scott	SEMO
Slater	Saline	Saline
Smithton	Pettis	Pettis
Smithville	Clay	Clay-Platte
Springfield	Greene	Greene
Stanberry	Gentry	Northwest
Steelville	Crawford	Mid-Missouri
Strafford	Greene	Greene
Sullivan	Franklin	Franklin-Gasconade-Warren
Sweet Springs	Saline	Saline
T		
Tarkio	Atchison	Northwest
Thayer	Oregon	South Central
Town and Country	St. Louis	St. Louis
Trenton	Grundy	Grand River
Troy	Lincoln	St. Charles-Lincoln
U		
Union	Franklin	Franklin-Gasconade-Warren
University City	St. Louis	St. Louis Metropolitan
V		
Valley Park	St. Louis	St. Louis Metropolitan
Van Buren	Carter	Butler-Wayne-Ripley-Carter
Versailles	Morgan	Lake of the Ozarks
W		
Warrensburg	Johnson	Johnson
Warrenton	Warren	Franklin-Gasconade-Warren
Washington	Franklin	Franklin-Gasconade-Warren
Waverly	Lafayette	Lafayette-Ray
Waynesville	Pulaski	Mid-Missouri
Webb City	Jasper	Jasper
Webster Groves	St. Louis	St. Louis Metropolitan
Wellsville	Montgomery	Montgomery
Wentzville	St. Charles	St. Charles-Lincoln
Weston	Platte	Clay-Platte
West Plains	Howell	South Central
Williamsville	Wayne	Butler-Wayne-Ripley
Willow Springs	Howell	South Central
Winchester	St. Louis	St. Louis Metropolitan
Windsor	Henry	Henry
Winston	Daviess	Grand River

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Vacancy	(1989)
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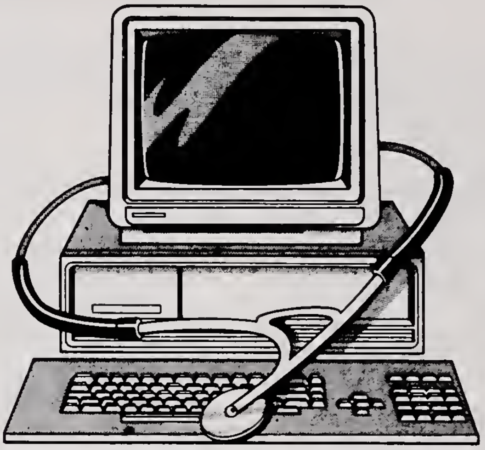

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Reporting Communicable Diseases

provided by the Missouri Department of Health

The following information on rule **19 CSR 20-20.020 Reporting Communicable Diseases** provides physicians with the designated diseases, disabilities and conditions that must be reported to the Missouri Department of Health. This also informs our readers of when these must be reported.

Reports of diseases should be made by contacting your local health department or the **Bureau of Communicable Diseases, P.O. Box 570, Jefferson City, MO 65102-0570 1-800/392-0272, toll free, or 314/751-8127.**

(1) Category I diseases must be reported to the Department of Health or to the local health authority within twenty-four (24) hours of suspected diagnosis by telephone, telegraph or other rapid communication, followed by a written report within seven (7) days. Category I diseases are: Animal bites; Botulism; Chlamydia trachomatis infections; Diphtheria; Epidemics — foodborne, toxic substances and others; Gonorrhea; Measles; Meningitis, Haemophilus influenzae; Meningitis, Meningococcal; Poliomyelitis; Rabies; Rubella; Syphilis and Typhoid Fever.

(2) Category II diseases must be reported to the Department of Health or to the local health authority in writing within seven (7) days of suspected or established diagnosis. Category II diseases are:

Acquired immune deficiency syndrome (AIDS);
Amebiasis;
Anthrax;
Brucellosis;
Campylobacter infections;
Chancroid;
Chickenpox;
Cholera;
Encephalitis, infectious;
Encephaitis, viral;
Genital herpes;
Giardiasis;
Granuloma inquinale;
Hepatitis A, B, and non-A, non-B;
Histoplasmoisis outbreaks;
Influenza outbreaks;
Kawasaki disease;
Legionellosis;
Leptospirosis;
Lymphogranuloma venereum;
Malaria;
Meningitis, aseptic;
Mumps;
Nongonococcal urethritis;
Nosocomial outbreaks;
Pediculosis outbreaks;
Pertussis;
Plague;
Psittacosis;
Reye's syndrome;
Rocky Mountain spotted fever;
Salmonella infections;
Scabies outbreaks;
Shigella infections;
Tetanus;
Toxic shock syndrome;
Trichinosis;
Tuberculosis;
Tularemia.

(3) Diseases and illnesses resulting from exposure to a toxic substance or to a radioactive substance that are indicative of an occupational health, public health or environmental problem must be reported to the Department of Health or the local health authority. If such a disease or illness is verified or suspected and presents an emergency or serious threat to public health or safety, that report shall be made by telephone, telegraph or other rapid communication followed by a written report. Diseases or illnesses resulting from exposure to toxic substances that must be reported include, but are not limited to, the following; occupational lung disease including silicosis, asbestosis and byssinosis; occupationally-related cancers including mesothelioma; and illnesses or diseases related to pesticide poisoning.

(4) The occurrence of epidemics or outbreaks of any illness or disease which may be of public health concern shall be reported to the Department of Health or the local health authority by telephone, telegraph or other rapid communication with twenty-four (24) hours of suspected diagnosis followed by a written report within seven (7) days.

(5) A physician attending any person who is suffering from any disease or condition listed in sections (1) through (4) of this rule or who is suspected of having any of those diseases or conditions, or who is suspected of being a carrier of any of those diseases or conditions shall report to the Department of Health or the local health authority that person's name, address, age, sex, race, name of disease or condition diagnosed or suspected and the date of onset of the illness.

(A) A physician attending any patient, with any disease or condition listed in sections (1) through (4) of this rule, who is in a hospital, clinic or other private or public institution may authorize, in writing, the administrator, superintendent or the person in charge of the hospital, clinic or institution to submit reports of communicable diseases on patients attended by the physician at the hospital, clinic or institution. But under no other circumstances shall the physician be relieved of this reporting responsibility. Each report shall include the name, age, sex, race and the address of the patient, the disease diagnosed or suspected, the date of onset of illness, and whether the patient is hospitalized. If the patient is hospitalized, the name and address of the hospital, date of the report, the name and address of the attending physician, and any appropriate laboratory results must be included in the report.

(B) A physician's report of epidemics as required in section (4) of this rule shall include the diagnosis or principal symptoms, the approximate number of cases, the local health authority jurisdiction within which the cases occurred and the name and address of the reporting physician.

(6) Any person in charge of a public or private school, summer camp or day care center shall report immediately to the local health authority the presence or suspected presence of any diseases listed in sections (1) through (4) of this rule.

(7) All local health authorities shall forward to the Department of Health reports of all diseases listed in sections (1) through (4) of this rule. Any report shall be forwarded within twenty-four (24) hours after it is received, according to procedures established by the Department of Health director. A local health authority shall transcribe from any original report the information necessary to carry out the required duties in 19 CSR 20-20.020(2), (3) and (3)(A).

(8) All individual morbidity reports received by a local health authority or the Department of Health are to be considered confidential records and not public records.

Auth: section 192.020, RSMo (1978). Original rule filed July 15, 1948, effective Sept. 13, 1948. Amended: Filed Sept. 1, 1981, effective Dec. 11, 1981. Rescinded and readopted: Filed Nov. 23, 1982, effective March 11, 1983. Emergency amendment filed June 10, 1983, effective June 20, 1983, expired Sept. 10, 1983. Amended: Filed June 10,1983, effective Sept. 11, 1983. Amended: Filed Nov. 4, 1985. Effective March 24, 1986. ■

HTLV-III Antibody Testing Sites

Locations, Phone Numbers & Trained Counselors

Site #	*Location*	*Site #*	*Location*
1	**St. Joseph** St. Joseph/Buchanan County Health Department 904 So. 10th St. (Patee Hall) Terri Dixon, R.N. PH: 816/271-4725	7	**Macon** Macon County Health Dept. 1131 Jackson Grace Osman, R.N. PH: 816/385-4711
2	**Kansas City** Westport Free Clinic 4008 Baltimore Randy Gould, Jeff Huyett PH: 816/931-3236	8	**Columbia** Columbia/Boone County Health Department 600 East Broadway Linda Hancik, R.N. PH: 314/874-7355
3	**Independence** Jackson County Health Dept. 313 So. Liberty Marilyn Burkett, R.N. PH: 816/881-4424	9	**Jefferson City** Cole County Health Dept. 210 Adams St. Ivah Braun, R.N. PH: 314/636-2181
4	**Marshall** Saline Co. Nursing Service 76 West Arrow Billie Vardiman, R.N. PH: 816/886-3434	10	**Flat River** St. Francois County Health Department 1025 West Main Street Jane Hartrup, R.N. PH: 314/431-1947
5	**Joplin** Joplin Cith Health Dept. 513 Kentucky Avenue June Tatman, R.N. PH: 417/623-6122	11	**Poplar Bluff** Butler Co. Health Dept. 1618 N. Main St. Vicky Sparkman, R.N. PH: 314/785-8478/8479
6	**Springfield** Springfield/Greene County Health Department 227 E. Chestnut Expressway Desa Beezley, R.N. Maureen Miller, R.N. PH: 417/864-1686	12	**St. Louis (City/Co.)** MAGDALA Foundation 4158 Lindell Blvd. Gwen Whiteside; Steve Randall PH: 314/652-6004

Directory of Medical Specialty Organizations

Any specialty group not listed here is invited to send the name of the group's president and the time, date and place of the group's next meeting to: Medical Specialty Listing, MISSOURI MEDICINE, P.O. Box 1028, Jefferson City, MO 65102.

** The 129th MSMA Annual Convention will be held April 2-5, 1987 at Tan-Tar-A at the Lake of the Ozarks.*

Specialty	President	Next Meeting
Missouri State Allergy Association	Jeffrey I. Schulman, M.D. 522 North New Ballas Road Suite 122 St. Louis, MO 63141	*MSMA Annual Convention Lake of the Ozarks
Missouri Society of Anesthesiologists	Bhaskara Murthi Ponnuru, M.D. 13100 Thornbill Dr. St. Louis, MO 63131	
Missouri Dermatological Society, Inc.	Ronald Swinfard, M.D. 15 Doctor's Park Cape Girardeau, MO 63701	*MSMA Annual Convention, Lake of the Ozarks
Missouri Chapter, American College of Emergency Physicians	Timothy T. Turner, D.O. 273 Pennington Lane Chesterfield, MO 63107	
Missouri Academy of Family Physicians	James F. Fairchild, M.D. 12 S. Jackson Perryville, MO 63775	June 1987
Missouri Society of Internal Medicine	Charles N. Mullican, M.D. 510 Francis St. St. Joseph, MO 64501	Oct. 25-27, 1986 Tan-Tar-A
Missouri State Neurosurgical Society	E. Jerome Hanson Jr., M.D. 4320 Wornall Rd., Ste. 328 Kansas City, MO 64111	*MSMA Annual Convention, Lake of the Ozarks
Missouri OB/GYN AGOC	George J. Fuchs, M.D. 3401 Berrywood Dr. Suite 201 Columbia, MO 65201	*MSMA Annual Convention, Lake of the Ozarks
Missouri Ophthalmological Society	Allan E. Kolker 660 S. Euclid Ave. St. Louis, MO 63110	Sept. 26-28, 1986 Tan-Tar-A
Missouri State Orthopaedic Association	Ray A. Ritter Jr., M.D. 48 Doctor's Park Cape Girardeau, MO 63701	
Missouri Society of Otolaryngology	Keith A. LaFerriere, M.D. 1900 South National, Suite 2300 Springfield, MO 65804	Oct. 18, 1986 Adam's Mark Hotel Kansas City
Missouri Society of Pathologists	Robert W. Brangle, M.D. Deaconness Hospital 6150 Oakland Ave. St. Louis, MO 63100	*MSMA Annual Convention, Lake of the Ozarks
Missouri Chapter, American Academy of Pediatrics	David L. Simon, M.D. 9705 Watson Road St. Louis, MO 63126	
Central Missouri Psychiatric Society	Jerald J. Kreisman, M.D. 621 South New Ballas Road St. Louis, MO 63141	*MSMA Annual Convention, Lake of the Ozarks

Central Society of Physical Medicine & Rehabilitation	Charles R. Kelly, M.D. St. Luke's Hospital 44th & Wornall Kansas City, MO 64111	*MSMA Annual Convention, Lake of the Ozarks
Missouri Radiological Society	John B. Shields, M.D. 1325 S. Grand Blvd. St. Louis, MO 63104	Sept. 27, 1986, Inn at Grand Glaize
Missouri Chapter of American College of Surgeons	Anthony E. Fathman, M.D., F.A.C.S. 224 S. Woods Mill Road Chesterfield, MO 63017	
Missouri State Surgical Society	William F. Sasser, M.D. 621 S. New Ballas Road St. Louis, MO 63141	*MSMA Annual Convention, Lake of the Ozarks
Missouri Thoracic Society	Kevin McCusker, M.D. 7129 Lindell St. Louis, MO 63130	Oct. 10-12, 1986 Tan-Tar-A
Missouri Society of Urologists	Jay L. Milne, M.D. 1900 S. National Suite 2700 Springfield, MO 65804	

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Metropolitan Specialty Organizations

Listed here are medical specialty groups located in Missouri's metropolitan areas. The listings are organized by city with the name of the current president or contact person, their address and phone number plus the organization's meeting schedule, if available at press time. Please note that any organization not listed below may submit their standard information for publication to: Metropolitan Specialty Organizations, MISSOURI MEDICINE, P.O. Box 1028, Jefferson City, MO 65102.

Columbia

Mid-Missouri Pathology Society
Ann Havey, M.D., *contact person*
Health Sciences Center
Columbia, MO 65212
314/882-8154
Next meeting in September 1986

Jefferson City

Central Missouri Psychiatric Society
John Lyskowski, M.D., *president*
1101-A Southwest Blvd.
Jefferson City, MO 65102
314/634-5303
Meeting dates to be announced

Kansas City

Greater Kansas City Allergy Association
Frank A. Munden, Jr., M.D., *president*
5300 W. 94th Terrace
Shawnee Mission, KS 66207
Meetings are quarterly

Kansas City Society of Anesthesiologists
Robert E. Binda, M.D., *president*
6400 Prospect, Suite 142
Kansas City, MO 64132
Meetings are quarterly

Kansas City Dermatologic Society
Michael Giessel, M.D., *president*
1612 SW Lakeside Dr.
Topeka, KS 66604
Meetings are monthly on third Thursday, except April, July & December

Kansas City Academy of Family Physicians
Mark Marin, M.D., *president*
225 S. Douglas
Lee's Summit, MO 64063
Meetings are quarterly

Kansas City Gynecological Society
Carl R. Slaughter, M.D., *president*
5601 N. Antioch Rd.
Kansas City, MO 64119
Meetings are five times a year, usually on third Thursday, January, March, May, September, and November

Greater Kansas City Society of Internists
Joseph L. Kyner, M.D., *president*
Kansas University Medical Center
39th & Rainbow Blvd.
Kansas City, KS 66103
Meetings are quarterly

Great Plains Occupational Medical Association
Ted E. Lockwood, M.D., *president*
4400 Broadway
Suite 408
Kansas City, MO 64111
Meeting dates to be announced

Kansas City Orthopedic Society
Keith Sheffer, M.D., *president*
407 S. Clairborne
Olathe, KS 66062
Meetings are twice yearly

Kansas City Society of Ophthalmology & Otolaryngology
Joseph R. Guastello, M.D., *president*
4320 Wornall Road, Suite 512
Kansas City, MO 64111
Meetings are quarterly, Annual Meeting in December

Kansas City Society of Pathologists
Deborah Borek, M.D., *president*
Kansas University Medical Center
39th & Rainbow
Kansas City, KS 66103
Meetings are monthly on the first Wednesdays

Kansas City Southwest Pediatric Society
Jerome Grunt, M.D., *president*
Children's Mercy Hospital
24th & Gillham Road
Kansas City, MO 64108
Meetings are monthly on fourth Wednesdays except June

Greater Kansas City Radiological Society
Stephen Kunz, M.D., *president*
4320 Wornall Rd., Suite 128
Kansas City, MO 64111
Meetings are monthly

Kansas City Surgical Society
William Bryan, M.D., *president*
3939 Prospect
Kansas City, MO 64130
Meetings are monthly, every Wednesday

Kansas City Urological Society
H. Calvin Lentz, M.D., *president*
1515 W. Truman Rd.
Suite 404
Independence, MO 64050
Meeting dates to be announced

Western Missouri Psychiatric Society
Carroll D. Patterson, M.D., *president*
Westown, IV, Suite 202
Liberty, MO 64068
Meetings are quarterly, Annual Meeting in April

St. Louis

St. Louis Cardiac Club
George Williams, M.D., *president*
3660 Vista
St. Louis, MO 63110
314/577-6190
Meeting dates to be announced

St. Louis Society of Colon and Rectal Surgery
Francis Burns, M.D., *president*
1035 Bellevue Ave.
St. Louis MO 63117
314/781-6219
Meeting dates to be announced

St. Louis Dermatological Society
Frederick D. Bauschard, M.D., *president*
6500 Chippewa
St. Louis, MO 63109
314/832-6803
Meeting dates to be announced

The St. Louis Ear, Nose and Throat Club
William Friedman, M.D., *president*
1325 S. Grand
St. Louis, MO 63110
314/771-8887
Meeting dates to be announced

St. Louis Academy of Family Physicians
L. Joseph Kennington, M.D., *president*
14382 Woodlake Dr.
Chesterfield, MO 63017
314/434-3333
or
Mr. Hollister S. Smith, *Executive Secretary*
1040 North Mason Rd., Room 107A
St. Louis, MO 63141
314/434-3144
Meeting dates to be announced

St. Louis Gastrointestinal Edoscopy Society
Burton A. Shatz, M.D., *president*
10287 Clayton Rd.
St. Louis, MO 63124
314/997-3212
Meeting dates to be announced

St. Louis Gynecological Society
Jerry N. Middleton, M.D., *president*
224 S. Woods Mill Rd.
Chesterfield, MO 63017
314/576-9797
Meetings are quarterly

St. Louis Internists' Club
William G. Bowen, M.D., *president*
4652 Maryland Ave.
St. Louis, MO 63108
314/367-3113
Meeting dates to be announced

St. Louis Society of Medical Oncology
Burton M. Needles, M.D., *president*
12255 DePaul Dr.
Bridgeton, MO 63044
314/291-8302
Meeting dates to be announced

St. Louis Society for Neurological Sciences
James Ferrendelli, M.D., *president*
660 S. Euclid
St. Louis, MO 63110
314/362-3299
Meeting dates to be announced

St. Louis Ophthalmological Society
Michael J. Isserman, M.D., *president*
456 N. New Ballas Rd.
St. Louis, MO 63141
314/432-1134
Meeting dates to be announced

St. Louis Academy of Ophthalmology
Samuel A. Canaan, Jr., M.D., *president*
5505 Delmar Blvd.
St. Louis, MO 63112
314/367-7077
Meeting dates to be announced

St. Louis Orthopedic Society
Ronald C. Hertel, M.D., *president*
1034 S. Brentwood
St. Louis, MO 63117
314/721-7325
Meeting dates to be announced

St. Louis Pathological Society
John Meyer, M.D., *president*
216 S. Kingshighway Blvd.
St. Louis, MO 63110
314/454-8462
Meeting dates to be announced

St. Louis Pediatric Society
Max H. Burgdorf, M.D., *president*
12303 DePaul Dr.
Bridgeton, MO 63044
314/344-6000
Meeting dates to be announced

Eastern Missouri Psychiatric Society
George T. Grossberg, M.D., *president*
1221 S. Grand
St. Louis, MO 63104
314/577-8726
Meetings are third Monday of the month

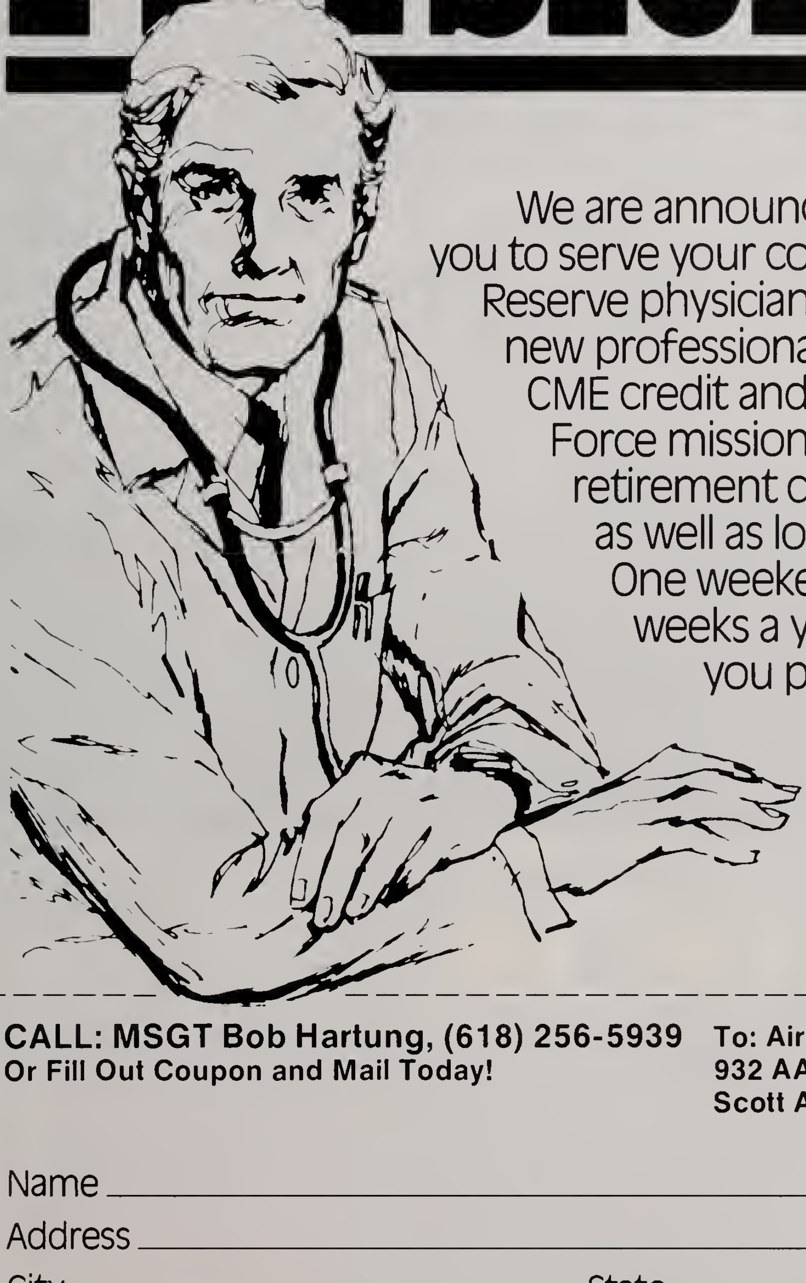
Greater St. Louis Society of Radiologists
Bruce L. McClennan, M.D., *president*
510 S. Kingshighway
St. Louis, MO 63110
314/362-1053
Meeting dates to be announced

St. Louis Rheumatism Society
Terry Weiss, M.D., *president*
522 N. New Ballas Rd.
St. Louis, MO 63141
314/567-5100
Meeting dates to be announced

St. Louis Surgical Society
Paul N. Meiners, M.D., *president*
621 S. New Ballas Rd.
St. Louis, MO 63141
314/993-2930
Meetings are quarterly

St. Louis Thoracic Surgical Society
Donald Judd, M.D., *president*
6125 Clayton Rd.
St. Louis, MO 63139
314/647-5525
Meeting dates to be announced

St. Louis Urological Society
Michael J. Chehval, M.D., *president*
621 S. New Ballas Rd.
St. Louis, MO 63141
314/991-2626
Meeting dates to be announced



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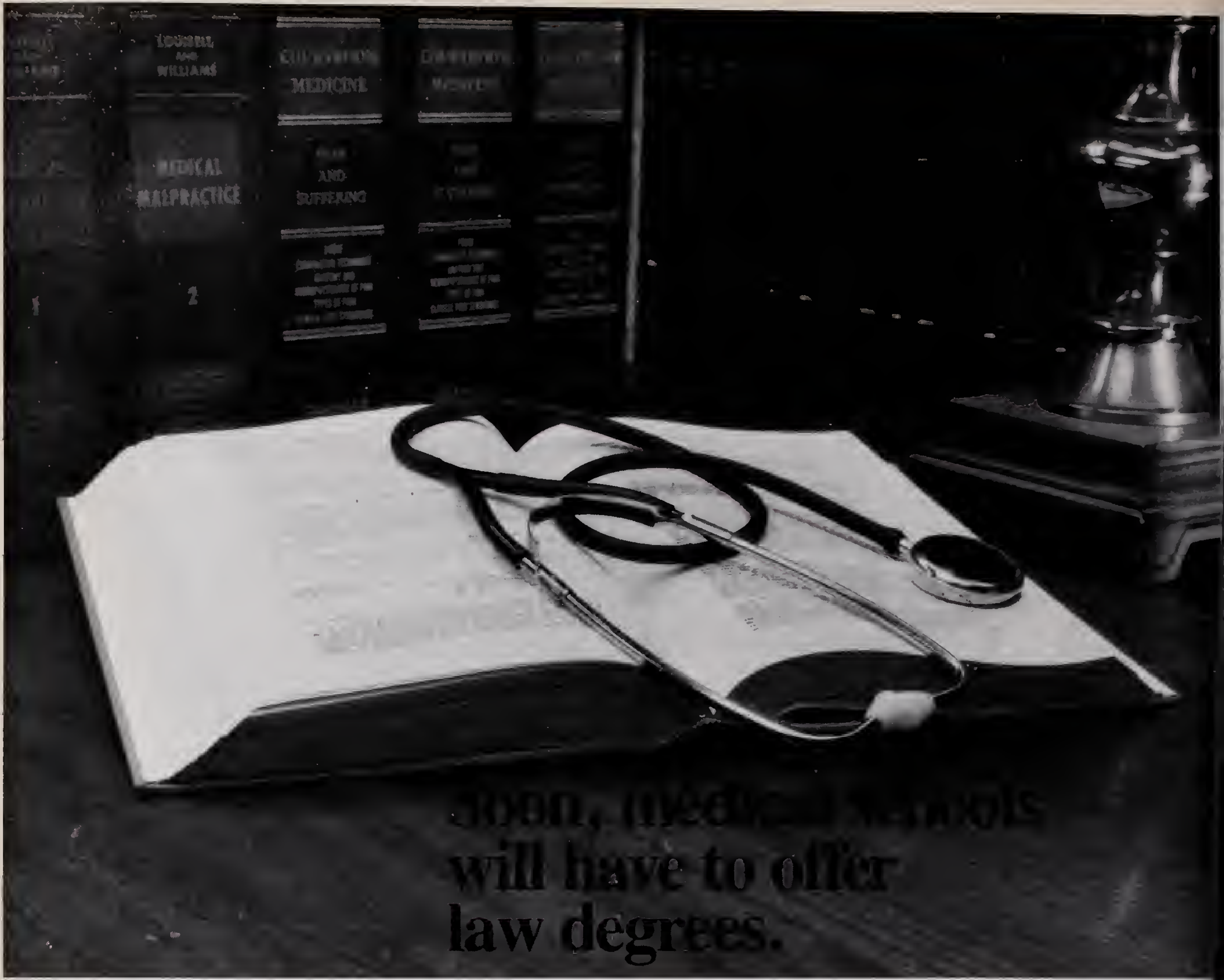
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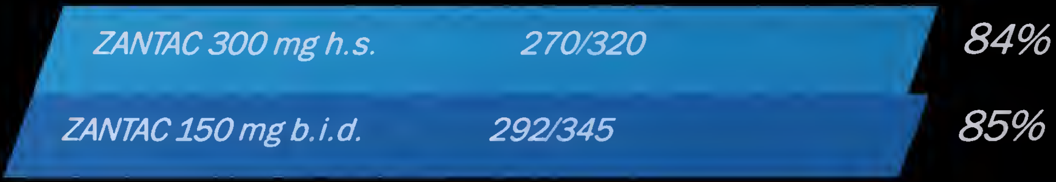
CONTROL ACID RAIN

with once-a-night h.s. therapy for active duodenal ulcers

Now, one tablet at bedtime

Controls nocturnal acid to relieve pain and heal duodenal ulcers

Heals active duodenal ulcers after 4 weeks in most patients*[1]



*In well-controlled, double-blind, multicenter trials, ZANTAC 300 mg h.s. healed active duodenal ulcers in 84% of patients after 4 weeks. After 8 weeks, healing rates may be higher with ZANTAC 150 mg b.i.d. (92%) than with ZANTAC 300 mg h.s. (87%).

Relieves pain and other symptoms as effectively as ZANTAC 150 mg b.i.d.[1]

Zantac® 300

ranitidine HCl/Glaxo 300 mg tablets

Once-daily dosing may enhance compliance in patients for whom dosing convenience is important

Side-effects profile comparable to ZANTAC 150 mg b.i.d.[1-3]

Headache—sometimes severe—has been reported. Rare effects on the CNS, cardiovascular, GI, hepatic, and integumental systems have been observed, as well as rare cases of hypersensitivity reactions. See ADVERSE REACTIONS section of Brief Summary of Product Information before prescribing.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 300 mg h.s. had no significant drug interactions with theophylline or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medica-
ions which decrease gastric acidity are
dministered.

is not known exactly how much acid inhibition
ieeded to heal ulcers.

Glaxo/ROCHE

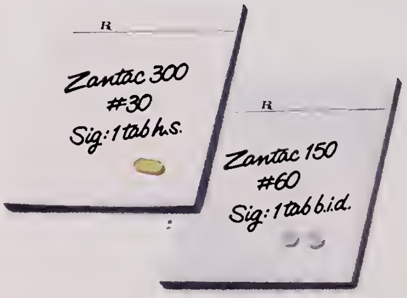
See next page for references and Brief Summary of Product Information.

IN ACTIVE DUODENAL ULCERS

Once-a-night h.s. therapy controls acid rain

Zantac® 300
ranitidine HCl/Glaxo 300 mg tablets

Now...two effective regimens to treat active duodenal ulcers



References: 1. Data available on request, Glaxo Inc. **2.** Ireland A, Colin-Jones DG, Gear P, et al: Ranitidine 150 mg twice daily vs 300 mg nightly in treatment of duodenal ulcers. *Lancet* 1984;2:274-275. **3.** Colin-Jones DG, Ireland A, Gear P, et al: Reducing overnight secretion of acid to heal duodenal ulcers. *Am J Med* 1984; 77 (suppl 5B):116-122.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

INDICATIONS AND USAGE: ZANTAC® is indicated in:
1. Short-term treatment of active duodenal ulcer. Most patients heal within four weeks. Studies available to date have not assessed the safety of ranitidine in uncomplicated duodenal ulcer for periods of more than eight weeks.
2. Maintenance therapy for duodenal ulcer patients at reduced dosage after healing of acute ulcers. No placebo-controlled comparative studies have been carried out for periods of longer than one year.
3. The treatment of pathological hypersecretory conditions (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of active, benign gastric ulcer. Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated. Studies available to date have not assessed the safety of ranitidine in uncomplicated, benign gastric ulcer for periods of more than six weeks.
5. Treatment of gastroesophageal reflux disease. Symptomatic relief commonly occurs within one or two weeks after starting therapy. Therapy for longer than six weeks has not been studied.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.
2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DOSAGE AND ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

Laboratory Tests: False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P-450 in vitro, recommended doses of the drug do not inhibit the action of the cytochrome P-450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2,000 mg/kg/day.

Ranitidine was not mutagenic in standard bacterial tests (*Salmonella, E coli*) for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay, a single oral dose of 1,000 mg/kg to male rats was without effect on the outcome of two matings per week for the next nine weeks.

Pregnancy: ***Teratogenic Effects: Pregnancy Category B:*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65 t 82 years of age) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalitie were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as events i clinical trials or in the routine management of patients treated wit oral ZANTAC®. The relationship to ZANTAC therapy has bee unclear in many cases. Headache, sometimes severe, seems to b related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnolence insomnia, and vertigo. Rare cases of reversible mental confusion agitation, depression, and hallucinations have been reported, pre dominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, and pre mature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting, an abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased to a least twice the pretreatment levels in 6 of 12 subjects receivin 100 mg qid IV for seven days, and in 4 of 24 subjects receivin 50 mg qid IV for five days. With oral administration there have bee occasional reports of reversible hepatitis, hepatocellular or hepat canalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulocyt penia, thrombocytopenia, and pancytopenia.

Endocrine: Controlled studies in animals and man have shown n stimulation of any pituitary hormone by ZANTAC and no antiandr genic activity, and cimetidine-induced gynecomastia and imp tence in hypersecretory patients have resolved when ZANTAC ha been substituted. However, occasional cases of gynecomasti impotence, and loss of libido have been reported in male patient receiving ZANTAC, but the incidence did not differ from that in th general population.

Integumental: Rash, including rare cases suggestive of mild er thema multiforme, and, rarely, alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchospas fever, rash, eosinophilia) and small increases in serum creatinine

OVERDOSAGE: There is no experience to date with deliberate ove dosage. The usual measures to remove unabsorbed material fro the gastrointestinal tract, clinical monitoring, and supportive the apy should be employed.

Studies in dogs receiving doses of ZANTAC® in excess 225 mg/kg/day have shown muscular tremors, vomiting, and rap respiration. Single oral doses of 1,000 mg/kg in mice and rats we not lethal. Intravenous LD_{50} values in rat and mouse were 83 a 77 mg/kg, respectively.

DOSAGE AND ADMINISTRATION: Dosage Adjustment for Patients wi Impaired Renal Function: On the basis of experience with a gro of subjects with severely impaired renal function treated wi ZANTAC®, the recommended dosage in patients with a creatini clearance less than 50 ml/min is 150 mg every 24 hours. Shou the patient's condition require, the frequency of dosing may increased to every 12 hours or even further with caution. Hemo alysis reduces the level of circulating ranitidine. Ideally, the dosa schedule should be adjusted so that the timing of a scheduled do coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 150 Tablets (ranitidine hydrochlori equivalent to 150 mg of ranitidine) are white tablets embossed wi "ZANTAC 150" on one side and "Glaxo" on the other. They a available in bottles of 60 tablets (NDC 0173-0344-42) and u dose packs of 100 tablets (NDC 0173-0344-47).

ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent 300 mg of ranitidine) are yellow, capsule-shaped tablets emboss with "ZANTAC 300" on one side and "Glaxo" on the other. They available in bottles of 30 (NDC 0173-0393-40) and unit do packs of 100 tablets (NDC 0173-0393-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect fr light. Replace cap securely after each opening.

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Glaxo
Glaxo Inc.
Research Triangle Park, NC 27709

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Insurance Plans Available to MSMA Members

Type of Coverage	*Underwriter*	*Administrator*
Professional Liability Insurance. Claim coverage available from $200,000/$600,000 to $2/$3 million. Endorsed by MSMA. Premises liability also available.	MOMEDICO (Missouri Medical Insurance Company) 10795 Watson Road St. Louis, MO 63127 800-392-8039	
Personal Disability Income. Benefits available up to $6,000 per month. Lifetime accident/to age 65 sickness coverage. Residual disability benefit available with cost of living increase provision. An individual contract with special renewal guarantees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. 2420 Pershing Road Kansas City, MO 64108 816-842-6670 231 S. Bemiston — Suite 1000 Clayton, MO 63105 314-863-7777
Overhead Expense Insurance. Benefits up to $10,000 per month. Optional 15 day or 30 day waiting periods after which payment begins from first day of disability and continues up to 2 years.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Accidental Death and Dismemberment. Up to $200,000 coverage. May include spouse, children and employees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Hospital Indemnity Plan. $50 to $200 per day while hospitalized in addition to any other insurance. Family coverage available.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Term Life Plan. Members and employees under age 60 may enroll for amounts up to $250,000. Spouses coverage, one half amount of member or employee, up to $100,000. Dependent children may be insured for $2,500.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 1-800-892-7272
Major Medical Plan. Pays up to a lifetime of $1,000,000. Deductibles from $200-$1,000. Coverage available to members, employees and dependents.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 1-800-892-7272
Workers' Compensation Insurance. A dividend program which returns premiums as earned each year, based on cost of claims from all participating physicians. The dividends often run between 30-40% per year.	Casualty Reciprocal Exchange, Member of Dodson Insurance Group	Dodson Insurance Group 92nd and State Line Kansas City, MO 64114 1-800-892-3431
Retirement Plan System. A comprehensive program covering design, administration, actuarial computations and the investment process.	Pension and Profit Sharing Consulting Services Department of E. F. Hutton and Company, Inc.	Trust Consultants, Inc. 100 S. Brentwood Clayton, MO 63105 314/725-9690

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Missouri Volunteer Health Agencies

Patients of MSMA members are eligible, in some instances, to receive assistance from various volunteer health agencies in the state. Assistance may be in the form of free or subsidized specialized equipment, rehabilitation training, counseling, specialized care, or information.

In an effort to assist MSMA members in attaining assistance for their patients, the following list of Missouri volunteer health agencies has been compiled. In some cases, a statewide organization is listed. In instances in which an organization is limited to a certain portion of the state, several organizations may be listed under one heading.

Arthritis

Arthritis Foundation, Eastern Missouri Chapter
7315 Manchester, St. Louis 63143
314-644-3488

Arthritis Foundation, Greater Kansas City-Western Missouri Chapter
8301 State Line, Suite 117, Kansas City 64114
816-361-7002

Arthritis Institute of Greater Kansas City
6301 Rockhill Rd., Suite 102, Kansas City 64131
816-444-5899

Birth Defects

March of Dimes, Northern Missouri Chapter
1310 Business 63 South, Columbia 65201
314-449-0573

Blood Transfusion and Tissue Bank

Missouri/Illinois Regional Blood Services
4050 Lindell, St. Louis 63108
314-658-2000

Cancer

American Cancer Society, Missouri Division, Inc.
P.O. Box 1066, 3322 American Ave., Jefferson City 65102
314-893-4800

Cerebral Palsy

United Cerebral Palsy Association of Missouri, Inc.
125 W. Dunklin St., Suite 35, Jefferson City 65101
314-636-5334

Crippled Children

Missouri Easter Seal Society, Inc.
10000 Watson Rd., St. Louis 63126
314-821-6001

Cystic Fibrosis

Cystic Fibrosis Foundation, Gateway Chapter
7730 Carondelet, St. Louis 63105
314-721-2490

Cystic Fibrosis Foundation, Heart of America Chapter
7920 Ward Parkway, Room 206, Kansas City 64114
816-363-5636

Diabetes

American Diabetes Association, Heart of America Affiliate
9201 Ward Parkway, Suite 300, Kansas City 64114
816-361-3361

American Diabetes Association, Missouri Regional Affiliate
Box 11, Columbia 65205-0011
314-443-8611

American Diabetes Association, Greater St. Louis Affiliate
1790 S. Brentwood Blvd., St. Louis 63144
314-968-3196

Epilepsy

Epilepsy Federation of Greater St. Louis
7305 Manchester, St. Louis 63143
314-645-6969

Greater Kansas City Epilepsy League
4949 Rockhill Rd., Kansas City 64110
816-276-8940

Heart

American Heart Association, Missouri Affiliate, Inc.
P.O. Box Q, 105 E. Ash, Suite 2, Columbia 65205
314-442-3193

Hemophilia

Bi-State Hemophilia Association
P.O. Box 22246, St. Louis 63116
314-771-6080

Kidney

National Kidney Foundation of Kansas and Western Missouri
One East 34th St., Kansas City 64111
816-756-2002

Kidney Foundation of Eastern Missouri and Metro East, Inc.
225 South Meramec, Suite 200, St. Louis 63105
314-863-5858

Lungs

American Lung Association of Eastern Missouri
1118 Hampton Ave., St. Louis 63139-3147
314-645-5505

American Lung Association, Northeast Missouri Branch
P.O. Box 574, Kirksville 63501
816-665-9403

American Lung Association, Central Missouri Branch
P.O. Box 1321, Columbia 65205
314-874-2616

American Lung Association, Southeast Missouri Branch
53 Plaza Way, Cape Girardeau 63701
314-334-4007

American Lung Association of Western Missouri
2007 Broadway, Kansas City 64108
816-842-5242

American Lung Association
1835 S. Stewart, Springfield, 65804
417-883-7177

Multiple Sclerosis

Multiple Sclerosis Society, Mid-America Chapter
P.O. Box 2292, Shawnee Mission, KS 66201
913-432-3926 or 1/800-345-3026 ext. 271

Multiple Sclerosis Society, Mid-Missouri Branch
1201 Paquin G-2, Columbia 65201
314-875-6767

Multiple Sclerosis Society, Gateway Area Chapter
915 Olive St., Suite 815, St. Louis 63101
314-241-8285

Muscular Dystrophy

Muscular Dystrophy Association, Inc., Greater Ozarks Chapter
1087 E. Commercial, Springfield 65803
417-866-5117

Muscular Dystrophy Association, Inc., Missouri Valley Chapter
3435 Broadway, Suite L-9, Kansas City 64111
816-931-7750

Muscular Dystrophy Association, Mississippi Valley Chapter
507 Clark St., Suite 8, St. Charles 63301
314-947-3331

Muscular Dystrophy Association, Central Missouri Chapter
914 Tandy, Suite 2, Columbia 65201
314-442-5154

Muscular Dystrophy Association, Twin Rivers Chapter
310 Broadway, 10th Floor, Cape Girardeau 63701
314-335-4400

Muscular Dystrophy Association, Inc., Mississippi Valley Chapter
1023 S. Big Bend Blvd., St. Louis 63117
314-644-2828

Myasthenia Gravis

Myasthenia Gravis Foundation, Inc., Greater Kansas City Chapter
4949 Rockhill Rd., Kansas City 64110
816-276-8310

Red Cross

American Red Cross, Missouri/Illinois Regional Blood Services
4050 Lindell Blvd., St. Louis 63108
314-658-2000

American Red Cross, Greater Kansas City Chapter
3521 Broadway, Kansas City 64111
816-756-2365

Retarded Citizens

Barry-Lawrence ARC
P.O. Box 244, Monett 65708
417-235-3596

Clay-Platte ARC
7204 N.W. Barry Rd., Kansas City 64153
816-741-9335

Cole County ARC
1515 E. High St., Jefferson City 65101
314-635-4490

Gentry County ARC
Albany 64402
816-726-4155

Greene County ARC
1031 E. Battlefield, Ste. 117, Springfield 65807
417-883-3442

Joplin Area ARC
2318 Pennsylvania, Joplin 64801
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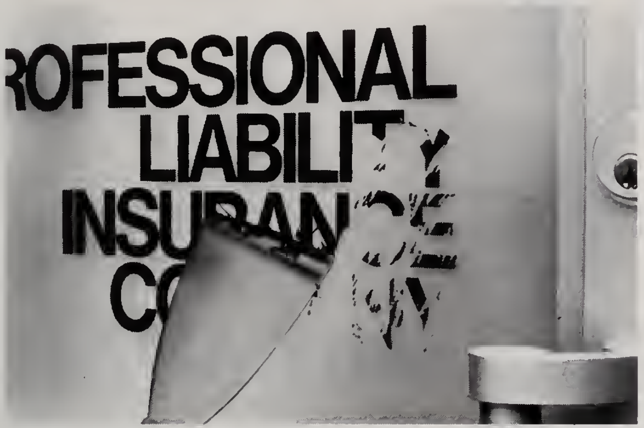

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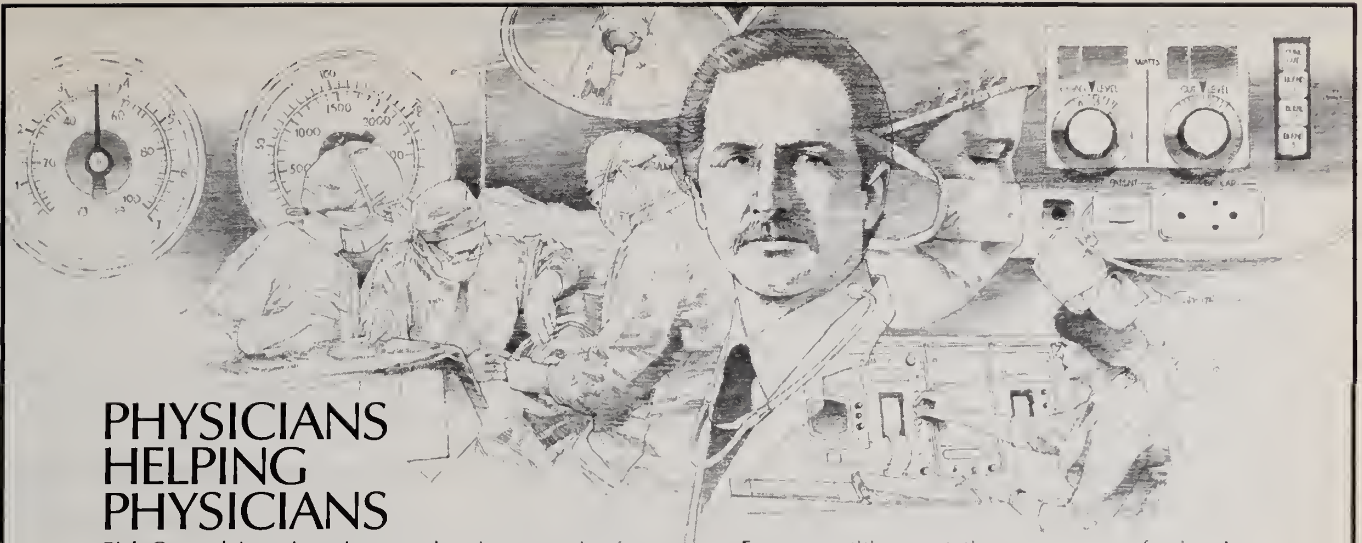

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Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations

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Reprints

Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

Editorials

Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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All advertisements are subject to approval by the Editorial Board prior to acceptance.

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Family Practitioner/General Practitioner Available for Locum Tenens Work. Fellow American Family Physicians, licensed Missouri. Available throughout the year; months: July 15-September 15, December, January, March, April. Can provide malpractice insurance. Contact: Dr. Olin, 21450 Excelsior Blvd., Excelsior, MN 55331 612/474-1050. (Other licenses: Minnesota, Wisconsin, Dakotas, Colorado, Utah.)

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Emergency Medicine — Full and part-time positions available in emergency departments and clinics for qualified physicians seeking lucrative employment opportunities. Outstanding remuneration and comprehensive malpractice insurance provided. For further information contact: Michele Lucas, staffing specialist. National Emergency Services, Inc., 255 Executive Dr., Suite 104, Plainview, NY 11803 or call 1-800-645-4848 or 516/349-0100.

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Full-Time Private Practice Opportunities from Healthline Physician Services, an affiliate of St. Louis University Medical Center, for the following specialties: Board Eligible or Board Certified Internal Medicine, and Board Certified Family Practice, Pediatrics and OB-GYN. Positions include income guarantee and no capital investment. For more information contact: Barry Trautman, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

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Healthline Physician Services, an affiliate of St. Louis University Medical Center, his part-time and full-time opportunities available for physicians in Emergency Department, Clinic, and Locum Tenens work. Excellent compensation, flexible schedules, administrative opportunities and benefits, no "on-call" responsibilities and a challenging medical environment. If you are just starting out, looking for a career change, or want to supplement your income from another source please contact: Barry Trautman, Healthline Physician Services, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

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Two Psychiatrists and One Neurologist — needed to complement a team of dynamic psychiatrists and general physicians. Located 65 miles south of St. Louis on Highway 67, our hospital has 318 beds. We are looking for Board Certified or Eligible specialists. Remuneration will range from $67,000 up, depending on years of experience, Board Certification and optional on-call days. Fringe benefits come to an additional 35% of the salary which includes vacation time, sick time, CME allowance, health insurance and life insurance. For detailed information, please write to: Adolph J. Herath, M.D., Medical Director, Farmington State Hospital, Farmington, MO 63640 or call 314/756-6792, extension 347.

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October 27, 28 and 29, 1986

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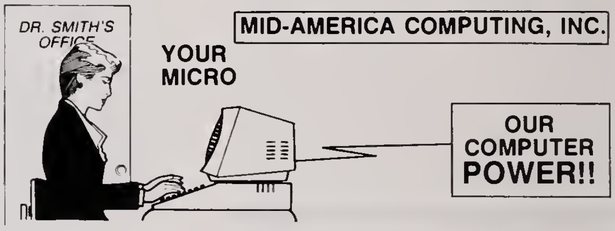
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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

August

27-28 Advanced Cardiac Life Support Provider Course — Location: Student Center, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

September

5 Primary Care Update — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

8 Regulation and Education: Is there a Proper Balance for the Food and Drug Administration? — Location: Mallinckrodt Institute of Radiology. Contact: Ronald G. Evens, M.D., Director, Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis 63110. 314/362-7100.

17-20 Annual Postgraduate Symposium on Internal Medicine — Location: Kansas City Alameda Plaza Hotel. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

24 The Office Treatment of Hypertension — Location: St. Louis Sheraton Westport Hotel. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

24-25 Central Nervous System Disorders of Aging — Location: St. Louis Clarion Hotel. Contact: Symposium Secretary, VA Medical Center, GRECC (111G-JB), St. Louis, MO 63125. 314/894-4659.

24-26 Two-Dimensional Doppler Echocardiography — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

25-26 Injuries and Injury Prevention/Pediatric Update — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

25-26 Special Workshop on the Use of the CO_2 Laser in ENT Surgery — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29-30 Missouri Perinatal Association Clinical Conference — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

October

1 Psychiatry — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

2 Anxiety and the Heart — Location: The Columbia Hilton in Columbia, MO. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

4-5 Infectious Diseases Conference — Location: Tan-Tar-A Resort, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia Health Sciences Center, CME Office, MA215, Columbia, MO 65212. 314/882-4105.

9-11 29th Annual Physicians Weekend — Location: MA217 Auditorium, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 American Cancer Society: Pediatric Oncology Symposium — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

21-22 Medicine and Religion: Ethics of Sexuality and Reproduction — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

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WHERE: *The Omni International Hotel in St. Louis Union Station*

WHAT: *The Midwest Clinical Magnetic Resonance Imaging Conference will be suitable for all physicians with an interest in this new imaging method. It is the first in the Midwest to focus specifically on clinical applications of the method as opposed to a summary of research results. In keeping with its focus, the conference will emphasize comparison with other accepted imaging methods. Registrants should expect to achieve a practical appreciation of the fundamental principles of MRI and its currently accepted applications in the brain, spine, body and extremities. Clinicians, faced with a decision among several imaging tests for a given problem, should anticipate an improved awareness of the relative merits of MRI. Radiologists faced with consultation and interpretive questions regarding specific MRI applications should expect to receive direction from this conference.*

For registration information,
Call (314) 362-2911.

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This CME activity is designated for 14.5 hours in Category I of the Physician's Recognition Award of the AMA.

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); In Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ:L42

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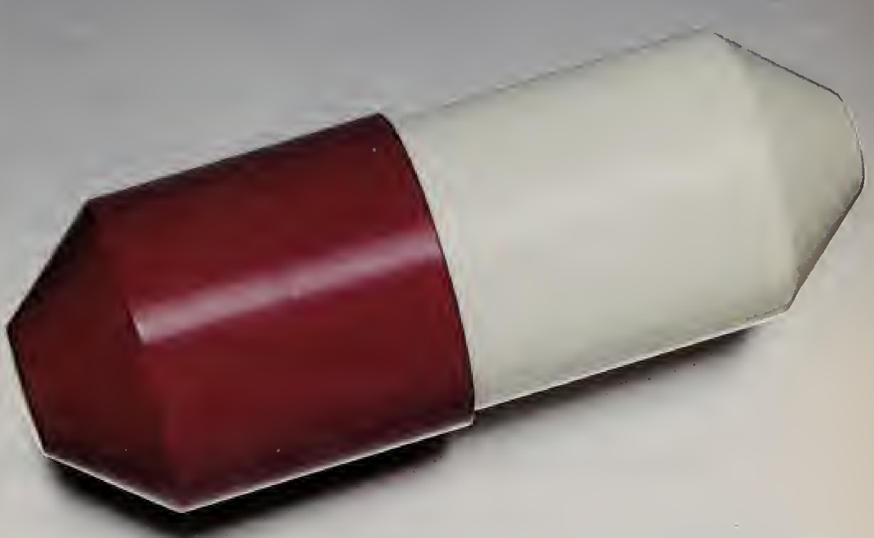

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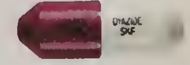

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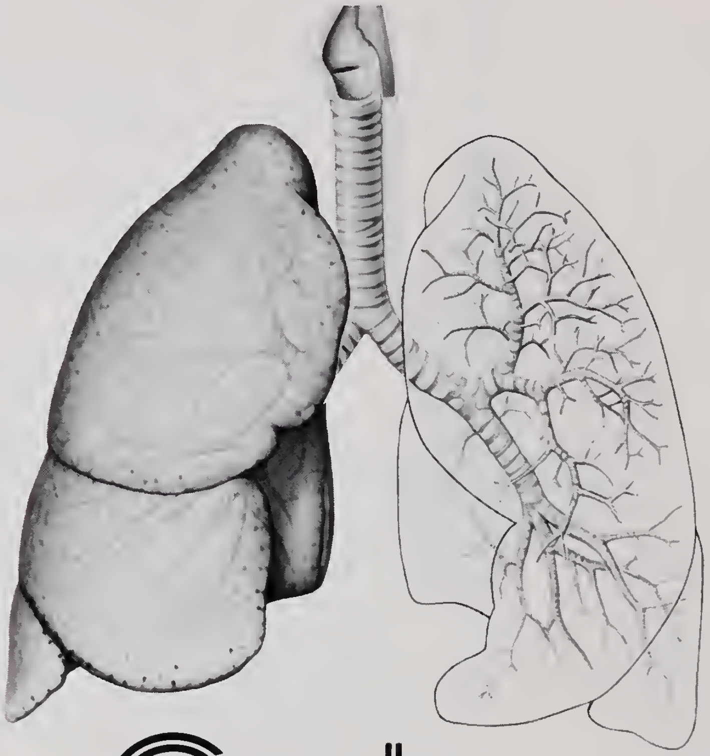
Consider the causative organisms...



Ceclor®
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250-mg Pulvules® t.i.d.
offers effectiveness against the major causes of bacterial bronchitis

Haemophilus influenzae, *H influenzae*, *Streptococcus pneumoniae*, *Streptococcus pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Note: Ceclor® is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci).

Contraindications: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly)

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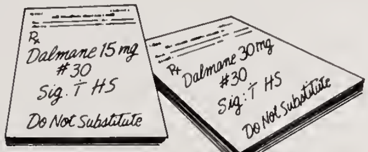
References: 1. Kales J, *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. 2. Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. 3. Kales A, *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. 4. Kales A, *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. 6. Dement WC, *et al*: *Behav Med*, pp. 25-31, Oct 1978. 7. Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. 8. Tennant FS, *et al*: Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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Missouri Medicine

Journal of the Missouri State Medical Association September 1986

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nside:

- Interview with Robert Harmon, M.D., director of Missouri's Department of Health
- Recognizing Common Innocent Heart Murmurs in Infants and Children
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Missouri Medicine

Vol. 83, No. 9 *Journal of the Missouri State Medical Association* September 1986

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Income henceforth will be certain,
Although we've lost our cherished independence.

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Your name may not appear in print;
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It's no time for bravado or for coyness.
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So, if you want to eat, you'd better join us.

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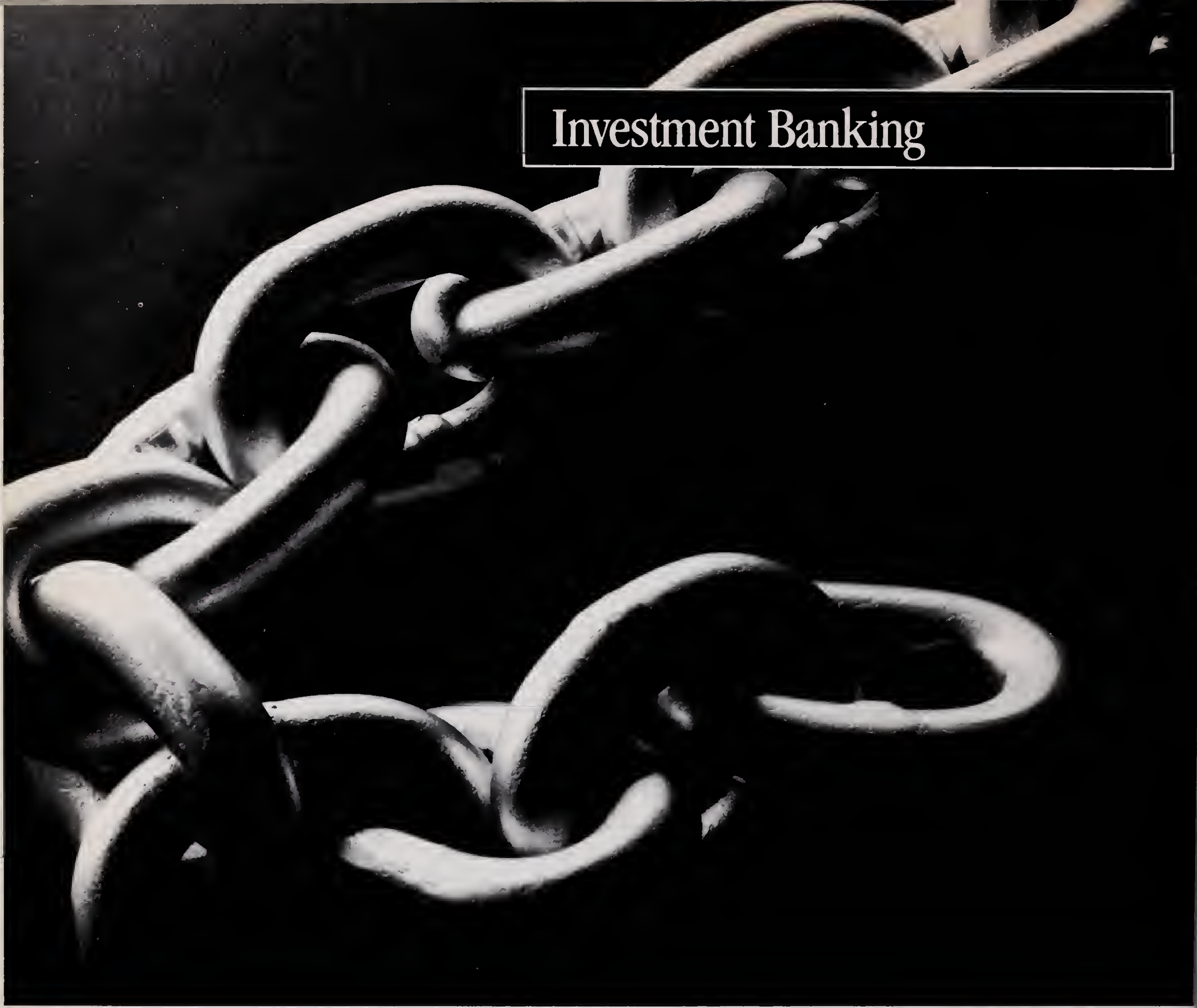

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MSMA Progress Notes

New Medicaid Form

The MS-40, EPSDT Screening form has been revised. Instructions for completing the form appear on its reverse side. Providers may continue to use the old form until their supply is exhausted. Either the old form or the new form may be attached to claims submitted to General American Consultec.

Requests for the new form should be sent to General American Consultec to the same post office box to which your Medicaid claims are mailed. ■

Missouri PRO Update

The Missouri Patient Care Review Foundation (MPCRF) has been awarded a new contract, effective August 1, 1986, as the PRO for Missouri. The new contract contains several provisions that differ from the old contract, and the MPCRF is preparing detailed notification of these changes for distribution to providers and practitioners.

- The preadmission review requirements for the following procedures (which are also required under the new contract) will remain in effect:

1. Breast biopsy
2. Release of carpal tunnel
3. Dilatation and curettage (D&C)

- The preadmission review requirements of the new contract that are different from the former were implemented September 1, 1986. Providers/practitioners will receive notification from the PRO office concerning these changes. Listed here are procedures that will require preadmission/preprocedure certification:

1. 04.43 Carpal tunnel release
2. 13.59 Extracapsular lens extraction
3. 69.09 Dilatation and curettage
4. 85.12 Breast biopsy
5. 37.70, 37.73-37.77 Permanent pacemaker implant
6. 37.81-37.89 Pacemaker reimplant

- Intensified retrospective review (100% review) of the following DRGs will be performed:

DRG 088 COPD
DRG 462 Rehabilitation
DRG 468 Unrelated OR procedures
DRG 148 Major bowel procedures
DRG 110 Major vascular procedures
DRG 243 Medical back problems

ISD-A criteria will be used for review of these DRGs. ■

Hearings scheduled on Indigent Health Care

A series of hearings has been scheduled by the Interim Committee on Indigent Health Care. The focus will be on the extent of medical indigency in Missouri and the hardships that providing uncompensated health care imposes on Missouri's health care system.

The hearings began August 12. The remaining hearings are as follows:

• Sept. 16	7:30 p.m.	St. Charles
• Oct. 1	7:30 p.m.	Kansas City
• Oct. 21	7:30 p.m.	Springfield
• Nov. 12	1:00 p.m.	Jefferson City Capitol Hearing Room 9

■

Missouri Register Update

Concerning controlled drugs, the Department of Health published a final rule to 19 CSR 30-1.010, Controlled Substances Schedules. The rule places para-fluorofentanyl in Schedule I, and quazepam and midazolam in Schedule IV. Synthetic dronabinal in sesame oil and encapsulated in soft gelatin capsules has been rescheduled from Schedule I to Schedule II. The rule became effective August 11. ■

PRO Monitoring Project

The AMA is once again urging physicians to relay their positive and negative experiences with Peer Review Organizations to:

AMA PRO Monitoring Project
Department of Health Care Review
American Medical Association
P.O. Box 10947
Chicago, IL 60610

All sources of information will be kept confidential. The data will be carefully analyzed and the results used by the AMA as the Association develops new ways to assist physicians and medical staffs in dealing with the PRO program.

Since this project was initiated in March 1985, the AMA has received more than 200 written communications on PROs representing the concerns of more than 5,000 individual physicians nationwide. ■

Missouri PRO sues HCFA

The Missouri Patient Care Review Foundation (MPCRF) — Missouri's peer review organization (PRO) — filed a lawsuit against the Health Care Financing Administration (HCFA) on July 24. The suit challenged HCFA's decision to deny automatic renewal of the MPCRF contract.

MPCRF argued that its First Amendment right of free speech had been abridged and that due process had been violated in the decision not to renew the contract. Specifically, MPCRF believed that:

- HCFA was punishing PRO for presenting testimony critical of HCFA policies at a subcommittee hearing of the House Select Committee on Aging, and
- HCFA had based its decision on transmittals and directives invalidated recently by a federal court in the case brought by the American Hospital Association.

MPCRF sought a temporary restraining order preventing HCFA from granting the contract to the competing Sunderbruch Corporation (a subsidiary of the Iowa PRO). The current contract expired July 31, 1986; MPCRF was awarded a new contract August 1, 1986. ■

Medicare provider statistics

Physicians and other Medicare providers accepted assignment on 68.1% of their claims during the first quarter of 1986, HCFA has reported. Assignment rates have remained constant in a high range from 67.7% to 69.4% since the beginning of FY-1985 after having surged from 56.4% in the preceding year. ■

New Board of Health members

Three new Missouri State Board of Health members were introduced at the July 23 meeting in Jefferson City.

James M. Whittico, M.D., replaces John D. Bouhasin, M.D. Dr. Whittico is a St. Louis Regional Medical Center board member. Marilyn Nelson, R.N., replaces Martha R. Manley, R.N. Ms. Nelson is employed by Research Medical Center in Kansas City. Thomas C. Schnurr, M.D., replaces Donald A. Fakhoury, M.D. Dr. Schnurr is in practice in Neosho, MO.

Actions taken by the Board include approval for publication in the *MISSOURI REGISTER* of two proposed amendments and one proposed rule. The proposed amendment to testing for metabolic diseases would add *GALACTOSEMIA* to the list of metabolic diseases for which newborns must be tested. The amendment to reporting communicable disease would add diseases due to mycobacteria other than tuberculosis (MOTT), Listeria monocytogenes and Yersinia enterocolitica to the lists and would clarify some language. ■

"Information, please"

If patient information and education are part of your practice — and when aren't they — let these MSMA brochures help you.

All MSMA publications are available at cost to Association members. Designed with your patients in mind, they can provide additional information on a variety of topics. Following is a listing of available titles:

A Woman's Choice

The woman with breast cancer faces a serious decision. This attractive brochure presents the various treatment alternatives in clear layman's language, discussing advantages and disadvantages of each treatment method. Informative for the family of the patient, too.

15 cents each, plus $1 postage and handling.

Health Care Cost Containment

Do your patients understand why health care costs are rising? Do they realize they *can* do something about it? In simple language, this popular brochure explains some of the reasons for spiraling costs and shows how the patient and physician working together can help contain them.

10 cents each.

Patient Survey

These small brochures are designed to elicit honest opinions about your practice from your patients. The answers to the quick survey can provide you and your staff with valuable feedback regarding the operation of your practice. Consider enclosing one with patient bills.

10 cents each.

Medical Records Booklet

These sturdy, six-page booklets provide an all-in-one record of immunizations, operations, allergies, health insurance and family medical history. There's room on the back for you to stamp your practice's name and address, and patients will welcome the convenience, no matter what their age.

15 cents each.

Medical Messages

These twice-monthly columns cover a variety of health topics, from herpes to holiday safety. Designed for newspaper use, they arrive camera-ready for reproduction in newsletters or as bill enclosures. Because of their size and brief format, they are also ideal for pinning on waiting room bulletin boards.

One-year, renewable subscription, $12.

What in the World is a DRG?

Your patients probably don't fully understand the new Medicare reimbursement system and its implications for health care quality. This brochure can help them. The question-and-answer format makes it easy reading for a complex subject.

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Single, sample copies of each brochure are also available free on request. Checks should be made payable to the Missouri State Medical Association. ■

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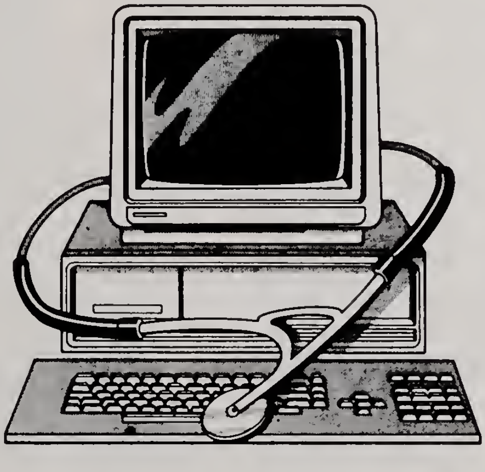

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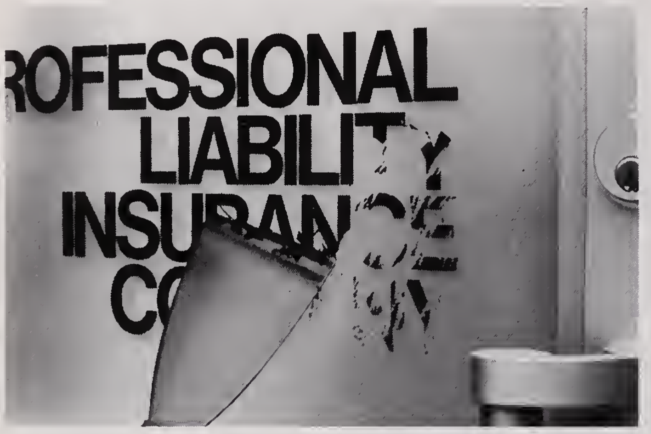

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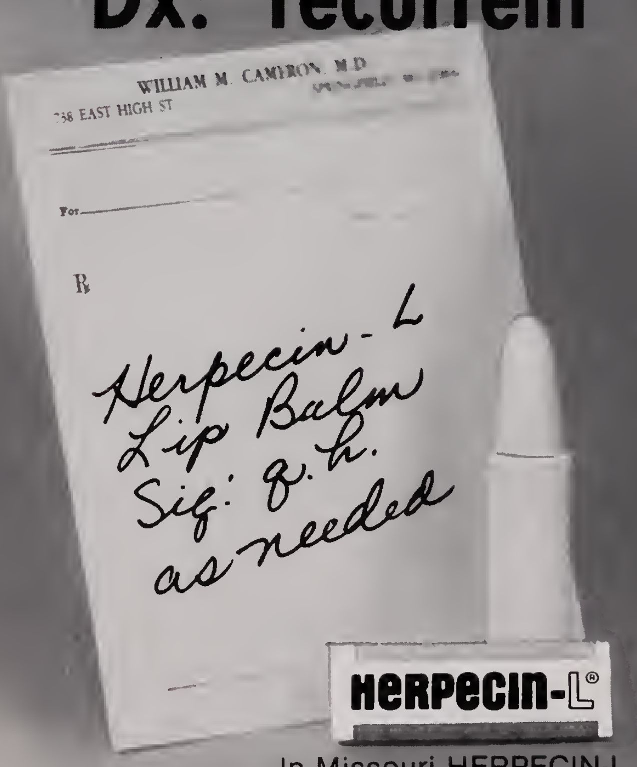

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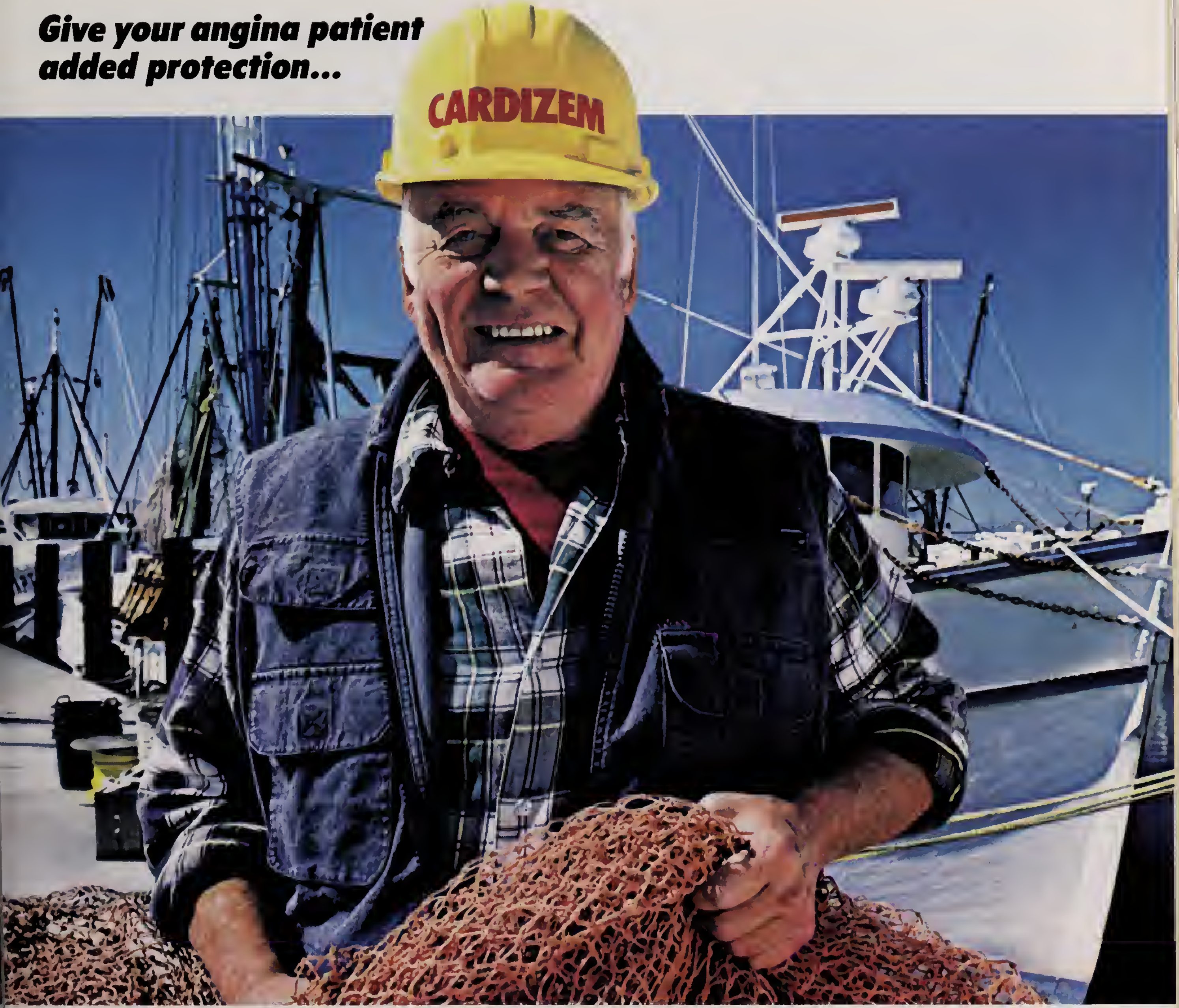

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- ***Proven efficacy when used alone in angina[3]***
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Please see brief summary of prescribing information on the next page.

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60 mg tid or qid

Brief Summary
Professional Use Information
CARDIZEM®
(diltiazem HCl) 30 mg and 60 mg Tablets

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). An acute study of oral diltiazem in patients with impaired ventricular function (ejection fraction 24% ± 6%) showed improvement in indices of ventricular function without significant decrease in contractile function (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is limited. Caution should be exercised when using the drug in such patients.*
3. **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System.	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic.	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM. alopecia, gingival hyperplasia, erythema multiforme, and leukopenia However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 11/85*

See complete Professional Use Information before prescribing.

References: 1. *Frishman WH, Charlap S, Goldberger J, et al: Comparison of diltiazem and nifedipine for both angina pectoris and systemic hypertension. Am J Cardiol 1985;56.41H-46H.* **2.** *Weiner DA, McCabe CH, Cutler SS, et al: The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. Clin Cardiol 1985;7:648-653* **3.** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983;106(6):1341-1347.* **4.** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* **5.** *McCall D, Walsh RA, Frohlich ED, et al: Calcium entry blocking drugs: Mechanisms of action, experimental studies and clinical uses Curr Probl Cardiol 1985;10(8).6-80.* **6.** *Chaffman M, Brogden RN. Diltiazem: A review of its pharmacological properties and therapeutic efficacy. Drugs 1985;29:387-454* **7.** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50 (Sept):94-116.* **8.** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* **9.** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study Am J Cardiol 1985,55:680-687.*

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Letters to the Editor

Metropolitan Specialty Supplement

Dear Dr. Burkey:

I thought MSMA members would be interested in the metropolitan specialty societies in Springfield:

Gordon McAfee, M.D.,
President
Ozark Chapter
Western Missouri District
Branch

American Psychiatric
Association
402 Medical Tower
Springfield, Mo 65802

TELEPHONE: (417) (865-0611)

(Meets second Thursday each month rotating between hospitals — off summers)

Robert Coscia, M.D., President
Southwest Missouri Chapter,
American College of Surgeons
1900 South National
Suite 2900
Springfield, MO 65804
TELEPHONE: (417) 887-4776

(Meets three times a year rotating between Springfield and Joplin. Usually meet in May and September, plus one clinical refresher course. Next meeting September 10, 1986 in Joplin)

Timothy Wilson, D.O.,
President
Springfield Academy of Family
Physicians
1965 South Fremont, Suite 1900
Springfield, MO 65804
TELEPHONE: (417) 883-0023

(Usually meets once a month, no set schedule.)

Sincerely,
Greene County Medical
Society
James E. Thompson, Jr.
Executive Director

Help preserve medical history

Dear Dr. Burkey:

For a book to be titled *Bringing Medicine to the Masses*, I am trying to locate any surviving medical or health-related motion pictures produced prior to 1928. I am particularly interested in finding films made for lay audiences, on such topics as hygiene, nutrition, TB, VD, child care, eugenics, etc. I would also appreciate hearing from anyone who remembers seeing such films in school, in the Army, or in theaters, before 1928; and from anyone who knows of specific references to such films in published or unpublished literature and documents from the pre-1928 period.

Sincerely,
Martin S. Pernick
Associate Professor
History Department
University of Michigan
Ann Arbor, MI 48109

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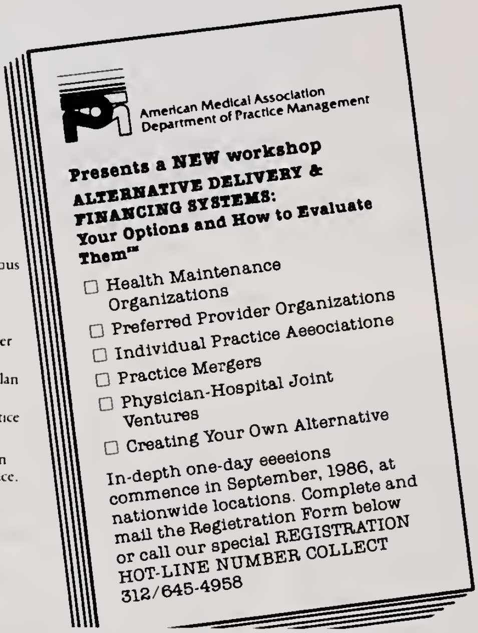

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☐ Wednesday, October 22

Atlanta, GA
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Chicago, IL (AMA)
☐ Thursday, September 18
☐ Saturday, October 18
☐ Thursday, November 6

New Orleans, LA
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EDITOR'S DESK

The Doctor-Patient Relationship

By Donald G. Sessions, M.D.
Associate Editor

> *There is an unspoken assumption that doctors have the answers and the technology available to handle all medical problems. Patients want this to be true and most doctors, although they know it is not true, contribute to this delusion with a conspiracy of silence.*

Presently there is a breakdown in the area of the doctor-patient relationship. Although most people still look to their doctors with trust and respect, there has been an erosion of confidence that patients have concerning the doctors who treat them.

Some of this is undoubtedly due to the many technologic and scientific advances that have rapidly inundated us in recent years. We all get a sense that there is nothing that science and medicine cannot do. Certainly, if we can put a man on the moon, we can cure cancer and handle heart disease. There is an unspoken assumption that doctors have the answers and the technology available to handle all medical problems. Patients want this to be true and most doctors, although they know it is not true, contribute to this delusion with a conspiracy of silence.

Even though we are brilliant in certain areas of medicine, we just do not have the answers to most of the situations our patients present to us. We are often powerless to help some people. These patients are labeled as "difficult cases." How often the thought arises that "this patient is in the wrong office" or "I'm not going to be able to help this person." Given that all of us see patients like this daily, our life is often frustrating. Since most of us actually *care* for our patients, our frustration can be burdensome. Being unable to help someone we care for is very draining. We go home exhausted.

The doctor-patient relationship is a multilevel phenomenon and creating some distinctions about the domains of interaction can be very useful.* Major domains of the doctor-patient relationship include the scientific-technologic, the contractual and the human domains. We are all trained in the scientific-technologic domain. Our medical schools have provided us with informational and experiential expertise on the most up-to-date methods of diagnosis and treatment of disease. We are tested on this material for both licensure and specialty certification. We are comfortable in this area as long as patients have something we can treat.

The contractual domain of the doctor-patient relationship is less clear and includes those interactions which define the contractual part of the relationship. These consist of stated or implied requests and promises involving both the patient and the doctor. The roles of doctors and patients imply certain well understood contractual agreements which are seldom consciously identified by either party. For instance, doctors ordinarily are expected to be trained in medical diagnosis and treatment; to have met the requirements to practice medicine; to keep sensitive information confidential; to

Continued on page 620

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* *Orman, M. Conversations For Wellbeing. The Health Resource Network, Inc., 2508 Pinebrush Road, Baltimore, MD 21209, 1985.*

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Your Missouri delegation, chaired by Francis Lieb of St. Louis, was very visible and active.

AMA Annual Meeting

The 1986 AMA annual meeting was in Chicago June 15-19. Presidents of state medical associations were seated as Alternate Delegates for the first time, and introduced individually as we shared the stage with AMA officials during the presidential inauguration. Dr. John Coury, of Port Huron, Michigan, was installed as the 141st AMA president. His theme was that physicians must remain patient advocates under any and all circumstances, and to assure that the AMA maintains its rightful position as the leader in making this nation's health policy.

The work of the House of Delegates was to address 147 resolutions, 47 reports from the Board of Trustees, and 39 reports from other councils. The debate and discussion concerning each of these topics in reference committee as well as on the floor was enlightening. Representatives from every aspect of health care were in reference committees and testimony was outstanding. Three hundred eighty-nine delegates attended, constituting more than 99% of those credentialed.

Your Missouri delegation, chaired by Francis Lieb of St. Louis, was very visible and active. We sponsored three candidates for AMA offices and although only George Bohigian was re-elected to the Council of Scientific Affairs, each delegate, alternate, auxilian and staff worked hard and long. Past MSMA president Andrew McCanse served on a reference committee and Richard Bradley was elected vice-president of O.S.M.A.P. (Organization of State Medical Association Presidents). Regan Thomas gave the President-Elect Nomination Speech for Hugh Ritter.

The Missouri hospitality theme-party, "Baseball's I-70 World Series," was considered the social of the week.

It was an honor for me to present flowers to retiring AMA Auxiliary president Mary Kay McPhee at the Auxiliary inauguration.

O.S.M.A.P. had an open forum meeting on Friday. The major topics were professional liability and tort reform. After hearing other states tell of their efforts, our Senate Bill 663 seems good. At the O.S.M.A.P. dinner, Richard P. Kusserow, inspector general, Department of Health and Human Services, spoke of "oversight activities" of the inspector general. He merely pointed out if regulations are not followed that sanctions will be imposed. One statement I recall was that he would rather be treated by a "crooked" doctor than by an "incompetent" one.

Two reports of interest were Board of Trustee Report MM and Report A of the Council of Medical Services. Report MM presents a comprehensive proposal to replace the existing federal Medicare program with a new program to finance health care for the elderly. The new program would be prefunded and is designed to be fiscally sound. It would provide comprehensive protection and would have differing levels of cost-sharing based on ability to pay. It would ensure free choice among health plans and is intended to assure access to high quality health care by the elderly.

A landmark study on quality of care was addressed by Report A of the Council on Medical

Continued on page 620

The MSMA Retirement Plan System

A membership benefit offered in conjunction with Trust Consultants, Inc. and EF Hutton

The Missouri State Medical Association has made special arrangements to provide high quality retirement plan services for use by its members. The system is available to both incorporated and unincorporated members and offers a full range of plan design, administration, and investment options. The following are some of the attractive features of the system:

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Auxiliary Message

By Eileen Dyer
MSMA Auxiliary
Membership Chairman

Because of your interest, concern, and commitment to the status of medicine, you are a KEY member of our organization.

KEY Members Needed for KEY Accomplishments!

This headline statement has to be our guide this year for our strength and success depends on the retention, renewal, and recruiting of our Missouri medical spouses.

Our Auxiliary history goes back 65 years. It covers a broad gamet of activities and services which support and promote the programs and aims of the Missouri State Medical Association. Our commitment to our physician spouses has led us into areas of health education, legislation, and fund-raising for medical education. Numerous Auxiliary service projects affecting our local communities help to promote the positive image of medicine.

Our active membership, however, only represents 18% of the Association members. Allowing for the single physicians, we realize our Auxiliary membership is not up to its potential. Therefore, we truly need your assistance.

As a *physician*, please tell your spouse about us! If there is no organized Auxiliary in your area, we still need each Member-At-Large to participate. In an organized Auxiliary area, each spouse can make contact through an Auxiliary member or county officer to initiate or renew a membership.

As a *spouse*, please join or rejoin us! Our only requirement for membership is that you be the spouse of a physician who is a member of the Missouri State Medical Association. Because of your interest, concern, and commitment to the current and future status of medicine, you are a KEY member of our organization.

Your support of the Auxiliary through dues payment entitles you to many benefits. You receive timely and informative publications, have access to the vast array of national resources and published materials, may enroll in group insurance programs, attend leadership training opportunities, and record your activities through the Professional Skills Development service.

Your own awareness of the current legislative status of medicine and related issues will be greatly increased through the many programs, publications, and Key Contact system. You are free to choose your area(s) of participation, and the amount of your time commitment.

Whether your involvement is extensive or limited because of job or family, you will still be able to enjoy the friendship and support of peer spouses. Who else can so well understand the many pressures, decisions, the difficulties as well as the joys of practicing medicine? Please consider carefully the potential that Auxiliary membership has to offer you.

Our state theme this year is *"You Are the KEY."* And truly, each spouse is a KEY member to us. We need your support and chosen participation, and we feel we can offer much in return.

If you are unsure how to start, please contact me directly

Continued on page 659

■ Editor's Page

Continued from page 615

promote health and prevent or cure disease when possible; and to call on other professionals and resources when appropriate. Patients are expected to be seeking help in some area of health or well-being; are expected to tell the truth; and are assumed to have the desire to get better or be cured. Breakdown in the doctor-patient relationship often originates in areas of the contractual domain where implicit agreements are incorrectly or inappropriately understood by each party.

The human domain involves areas where doctors and patients operate from their fundamental capacities as human beings. This can include human phenomena such as empathy, compassion, integrity, respect, courage, humility, creativity and dignity. Most physicians feel that they are effective in this domain. This may be true. Certainly in all of us there is a willingness to be comfortable at the present level of expressing our humanity. Sometimes, however, we merely go through the motions of being human and this is not enough. Perhaps what is missing is an enthusiasm to go to the next level of human expression. Patients have an awareness when something is missing from their physician in this area. This is often communicated as "he's a good doctor, but. . . ."

It is in the human domain that doctors and patients are touched most deeply and the possibility of connection is available. Establishing a connection in this domain results in an effective doctor-patient relationship. Often this has more to do with a way of being than with a way of doing. This is the challenge of the doctor-patient relationship. When we *are* a certain way with someone — a way that is empowering to the other person — then what we *do* or *don't do* is less important. When we are human with patients they relate to us naturally and the results that we both desire are produced. ■

■ President's Page

Continued from page 617

Services. This presented a detailed report essential elements of quality as well as a series of guides for quality assessment. The Council further recommended they be used in any system designed to review the quality of care.

Through this very thorough and deliberative process the policies and decisions affecting the health of all Americans is determined.

I urge each Missouri physician to become involved and encourage all to be active AMA members to maintain its leadership role in America's health policy. ■

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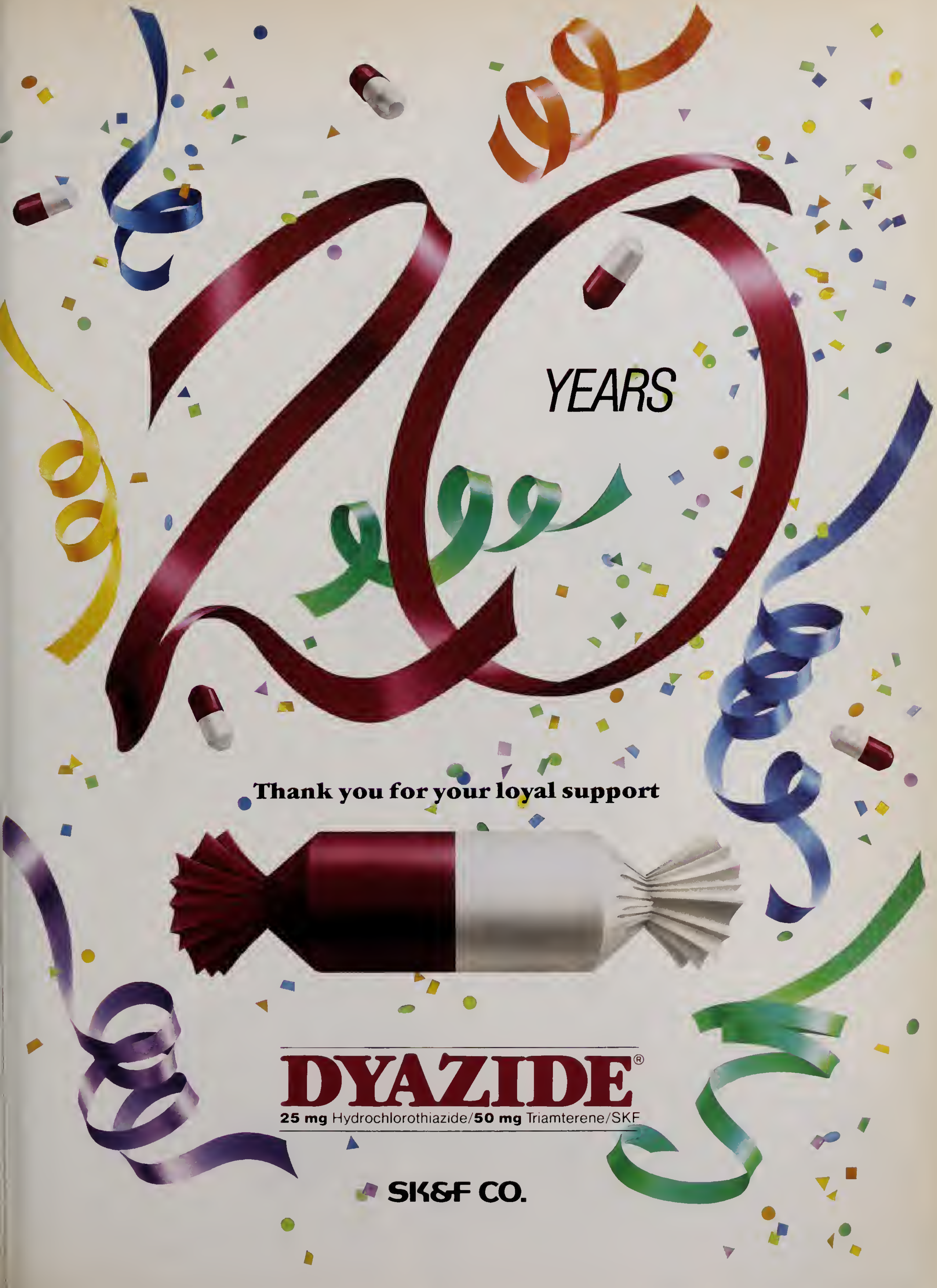
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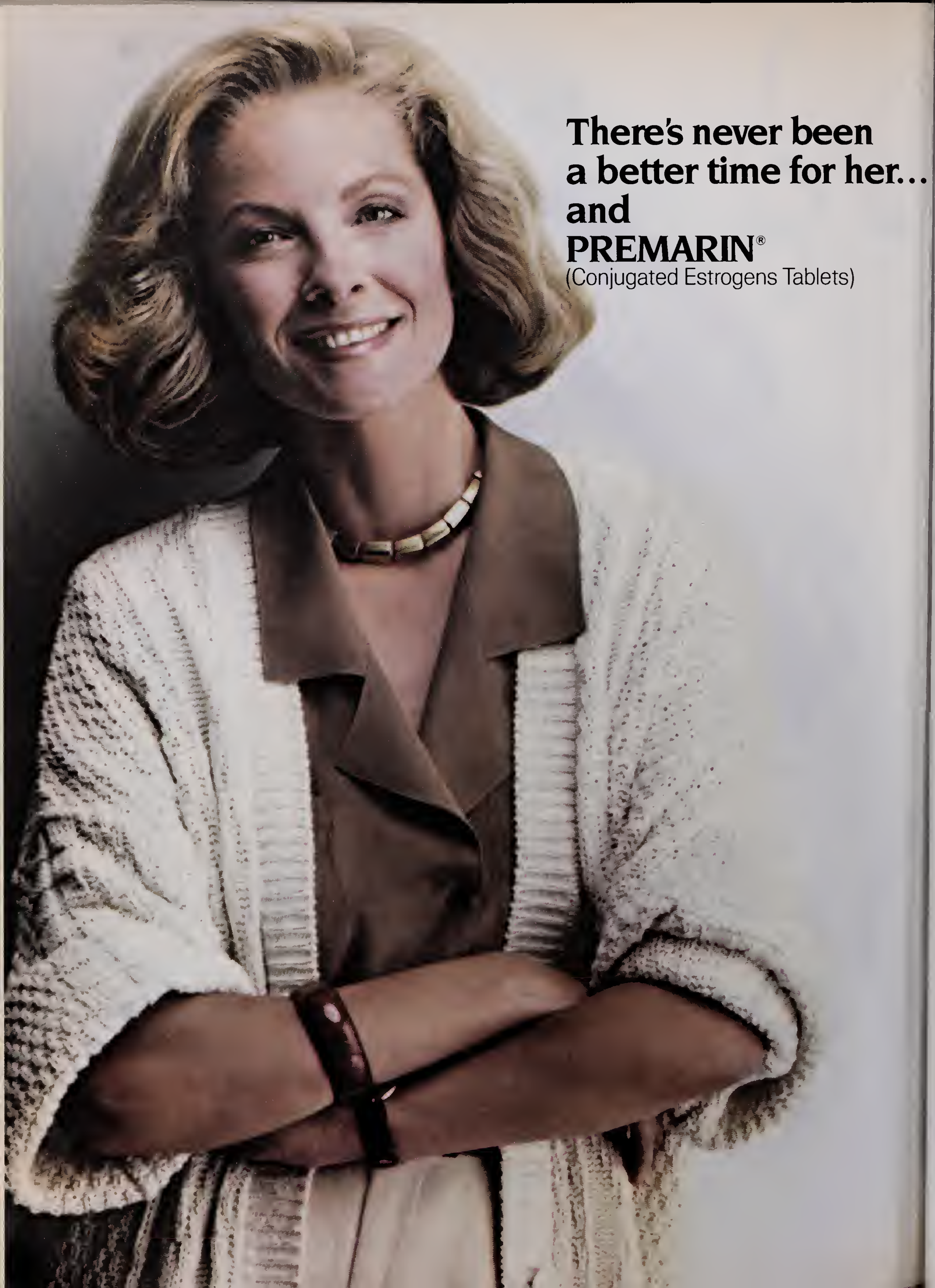
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Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

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PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

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PREMARIN 0.3
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PREMARIN 1.25
PREMARIN 2.5

0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

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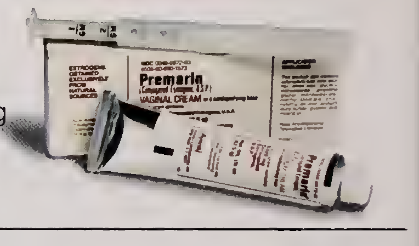
0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

> 1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.
>
> Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.
>
> 2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.
>
> The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome, amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis—0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605. **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219

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Recognizing Common Innocent Heart Murmurs in Infants and Children

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Kansas City, Missouri

Innocent heart murmurs are frequently seen in children. Some common innocent murmurs are described and contrasted with the indicators of serious heart conditions, which may sound similar in many respects. A practical approach to distinguishing the differences is presented.

The asymptomatic ambulatory and healthy child with a cardiac murmur is a frequent visitor to the pediatrician's and family physician's office. Several papers report that innocent heart murmurs in school children are quite prevalent, found in as many as 65% of children examined.[1, 2] In our own cardiac clinic practice, almost 50% of patients seen for cardiac evaluation have one or more innocent types of heart murmurs.

The marked improvement in treatments presently available for infants and children with various types of congenital heart defects makes it of utmost importance to be able to recognize and differentiate organic heart murmurs from the more common innocent and insignificant ones.

The early recognition and classification of various innocent heart murmurs are not only important to suppress anxiety in parents and patients, but provide guidelines involving such diverse aspects as restriction from sport activities; risk of endocarditis and the need for prophylaxis against it; eligibility for insurance and gainful employment; risk of pregnancy and the use of appropriate contraceptives, and the planning of a safe management protocol for non-cardiac surgical procedures needed by the patient.

The innocent heart murmurs present during infancy and childhood have many distinguishing features. This paper classifies and describes these commonly encountered murmurs and discusses a clinical approach which should enable the practitioner to establish a positive diagnosis of the specific type of innocent heart murmurs and separate them from certain organic ones from which they have to be correctly differentiated.

General Characteristics

Innocent heart murmurs are usually grade 2-3/6 in intensity, not accompanied by a thrill, usually early to mid-systolic in timing, and never holosystolic. They frequently are blowing or vibratory in quality. The most common location of maximal intensity includes the pulmonary area — the second and third left interspaces parasternally for pulmonic flow murmurs, the lower left sternal border, and near the cardiac apex for the vibratory precordial parasternal murmur. In these cases of innocent murmur, cardiac x-rays, electrocardiogram, and often the echocardiogram are usually perfectly normal.

Contrary to numerous misconceptions, innocent heart murmurs are often accentuated by exercise. They

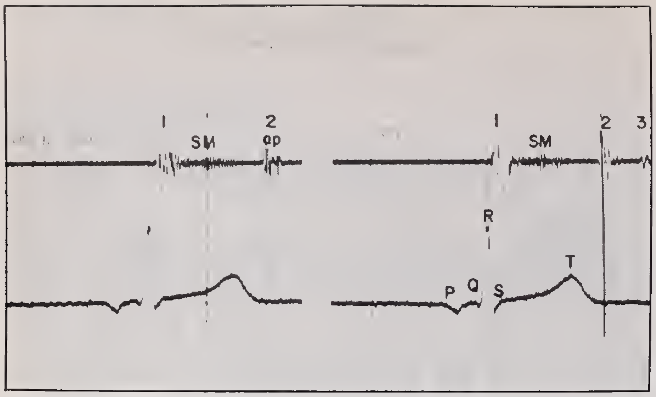

Fig. 1. The vibratory precordial murmur is a low to medium frequency murmur which graphically appears as a "picket fence" pattern. It is usually early to mid-systolic in time, grade 2-3/6 in intensity and heard at the lower left sternal border and the cardiac apex.

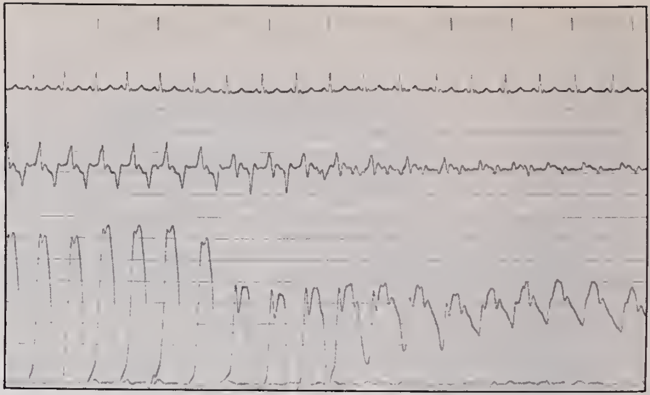

Fig. 2. Pressure tracing recorded during cardiac catheterization study obtained by withdrawing the catheter from the body of the left ventricle to the left ventricular outflow and then across the aortic valves into the ascending aorta. Note that the systolic gradient occurred in the left ventricular outflow rather than at the valve level, indicating subaortic stenosis.

become more audible and more easily heard in situations of increased cardiac output, such as when the patient is febrile or anemic. The intensity of the murmur has no bearing as to whether or not it is pathologic. Thin-chested children tend to have intense innocent heart murmurs. Some organic murmurs, such as a mild degree of mitral valve regurgitation, are often faint, variable in intensity, and hence not correctly recognized.

Specific Types of Innocent Murmurs

Vibratory Precordial Murmur

This is the most common innocent precordial murmur encountered and has been described as having a "twanging" or groaning, and sometimes slightly musical quality. This murmur is often referred to as Still's vibratory murmur, having been noted by Dr. Still in 1909.[3] This murmur has a frequency range of between 70 and 150 cycles per second, and its phonocardiogram tracing has a "picket fence" appearance, usually extending from early to mid-systole (Fig. 1). The murmur is usually grade 2-3/6 in intensity when the patient is in the supine position and decreases slightly in intensity when the patient assumes the upright sitting position. It disappears when the patient exercises. The location of maximum intensity is in an area between the lower left sternal border and the cardiac apex. This murmur is typically low-pitched, and appreciated well with the bell of the stethoscope. Rarely, this murmur may be introduced by a systolic ejection click and may occupy a more midsystolic cardiac cycle position. It is commonly heard in children between the ages of 2 and 8 years, but it is often heard throughout the pediatric age group and often persists through adulthood.

The exact origin of the Still's vibratory murmur is uncertain. McKusick suggests it arises from vibration of the pulmonary valves during systolic ejection, which results from the trigonoidation of the pulmonary valve cusps. He also noted its location may indicate an extracardiac origin.[4] Harris believes that this murmur may be due to the vibration caused by the impact of the fluid blood mass or sudden change in the pressure produced by the dynamically contracting ventricles.[5]

The vibratory precordial murmur can be prominently heard at the lower left sternal border and may be mistaken for a small ventricular septal defect. However, the murmur of a ventricular septal defect is usually harsher, has higher frequency components, and is usually pansystolic and long in duration. The ventricular septal defect murmur is also widely transmitted in the anterior precordium, to the right of the sternal border, the upper left sternal border, as well as the cardiac apex.

When the vibratory murmur is heard towards the cardiac apex, it may mimic mitral valve regurgitation. The mitral regurgitant murmur, however, tends to be holosystolic, higher pitched, and transmits well to the left axillary region and the posterior hemithorax.

Another murmur that must be distinguished from the vibratory murmur is that from a mild subaortic stenosis. The subaortic stenosis murmur is harsher and transmits well to the upper right sternal border (the primary aortic area), the suprasternal notch, and sometimes to the neck. Occasionally the distinction can only be confirmed by the demonstration of a mild pressure gradient in the left ventricular outflow during cardiac catheterization (Fig. 2).

Pulmonic Ejection Flow Murmur

The innocent pulmonic flow murmur is heard during the early childhood period, but often persists in the early twenties. On graphic recording, this murmur has a higher frequency than the Still's vibratory murmur, usually between 250 and 350 cycles per second. This murmur is usually grade 3/6 in intensity and heard well with the bell of a stethoscope. It has a blowing quality, although it may be slightly harsh. This murmur is heard at the second and third left sternal border — the pulmonary area. This murmur may occupy two-thirds of systole but is never holosystolic. Like most innocent heart murmurs, its intensity increases with exercise, and it often becomes prominent in the presence of fever and anemia. An exaggeration of the pulmonic flow murmur occurs when the patient has pectus excavatum, a straight back, or kyphoscoliosis. The pulmonic ejection flow murmur is thought to be due to a strong right ventricular ejectile force and is related to increased blood velocity and flow across the normal pulmonary valves. In infants the murmur is due to the somewhat smaller pulmonary arterial branches.

In the newborn period, a prominent and often harsh pulmonic ejection flow murmur is hard to distinguish from the organic murmur of pulmonary stenosis. The pulmonic stenotic-like murmur in newborns has been blamed on their smaller right and left pulmonary arterial branches coming off a rather large main pulmonary arterial trunk. As the pulmonary arteries grow with the infant, the pulmonic flow murmur often lessens in intensity and even completely disappears by the time the infant reaches 6 months of age.

The murmur of atrial septal defect is an exaggerated pulmonic ejection flow murmur resulting from increased right ventricular volume. The atrial septal defect per se does not produce a murmur. The significantly increased volume of the right ventricle is manifested in the patient with a hyperdynamic right ventricular impulse, accompanied by a prominent mid-diastolic rumble across the tricuspid valve area. This diastolic rumble is due to the tremendous volume of blood flowing through the tricuspid valve and is a result of the large left-to-right shunting across the atrial septal defect. This prominent rumble is the most diagnostic murmur in a patient with a large atrial septal defect.

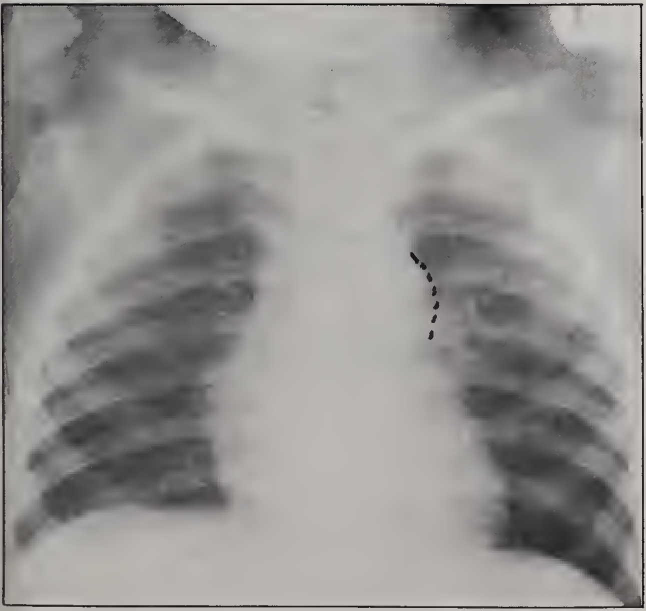

Fig. 3. Chest x-ray obtained from a child with mild pulmonary valvular stenosis showing the prominent main pulmonary artery trunk and proximal left pulmonary artery branch, manifesting the "post-stenotic dilatation" of the pulmonary artery.

The murmur of pulmonary valve stenosis needs to be differentiated from the pulmonic flow murmur of the innocent type. Usually the pulmonary stenosis murmur is harsher, longer in duration, and has a crescendo-decrescendo intensity. There is frequently an accompanying systolic thrill at the pulmonary area, and the systolic murmur is often introduced by a systolic ejection click which may be heard intermittently. The second sound may be abnormally widely split and when the pulmonary component is heard, is very soft and muffled (decreased P_2). Although the ECG is often normal, many patients show variable degrees of right ventricular hypertrophy and the cardiac x-ray in the PA views shows a prominent main pulmonary artery. This is due to the post-stenotic dilatation of the main pulmonary arterial trunk and is related to the jet and turbulent flow across the fused and thickened stenotic pulmonary valve (Fig. 3).

Continuous Venous Hum

The gravitational flow of blood in the supracardiac veins frequently creates a medium- to high-pitched continuous murmur best heard over the right side of the neck and the region underneath the right clavicle. This murmur typically has an early diastolic crescendo. It is prominently heard when the patient is upright, with the head tilted upwards, releasing compression over the jugular veins. (Fig. 4). This murmur is often associated with a pulmonic ejection flow murmur, indicating good cardiac output. The intensity of the murmur increases with exercise as well as in the presence of fever or anemia. When the patient assumes a supine position, the intensity of the murmur markedly decreases and often completely disappears. Compression of the jugular veins during auscultation also diminishes flow through the superior vena cava and thus decreases the murmur.

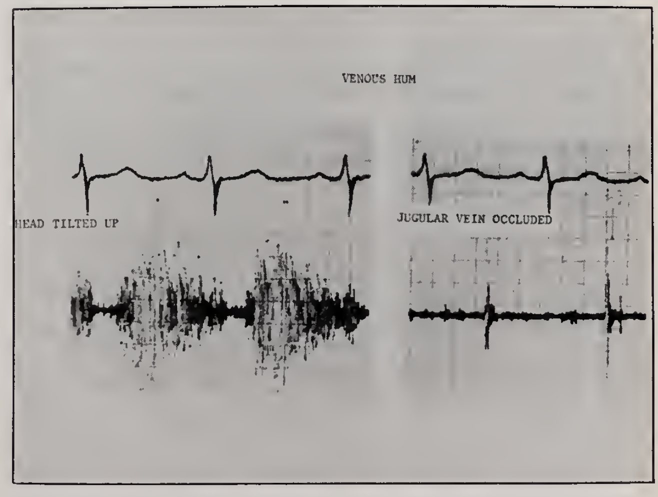

Fig. 4. The continuous venous hum is heard over the right side of the neck and the area above and below the right clavicle. Note that the murmur is loud when the patient's head is tilted upwards while in the sitting upright position and can be obliterated by occluding the cervical veins.

The continuous venous hum must be differentiated from the murmur of a patent ductus arteriosus. The ductus murmur tends to be much higher in pitch and is heard maximally over the upper left sternal border. The typical patent ductus murmur is most intense during late systole and obscures the second heart sound as the murmur extends into diastole. The ductus murmur does not change intensity when the patient changes from the upright to the supine position and cannot be obliterated by jugular venous compression. The presence of a venous hum is unusual during the newborn period, while patent ductus murmurs are commonly heard in premature babies. When a venous hum is heard in the newborn period, this is often abnormal and may indicate turbulent flow into the supracardiac veins due to anomalous pulmonary venous connections that drain the entire pulmonary venous blood flow into the superior vena cava rather than into the left atrium. Continuous murmur can also originate from arterio-venous fistula, which causes congestive heart failure in early infancy because of high cardiac output.

Carotid and Other Arterial Murmurs

The carotid arterial murmurs are heard over the carotid arteries and are usually harsher in quality, medium- to high-pitched. They are often long systolic or continuous murmurs. Carotid bruits are common on the right side of the neck. These are generated at the bifurcation of the brachiocephalic artery as it branches into the right subclavian artery and the right common carotid artery. Carotid murmurs can be very loud and when transmitted well to the primary aortic area, they are often confused with aortic valve stenosis. The murmur of aortic valve stenosis is distinctly loud at the primary and secondary aortic areas, characteristically transmitting well to the cardiac apex, where a prominent and constantly heard systolic ejection click introduces the murmur. The aortic stenosis murmur is also crescendo-decrescendo in intensity and is heard during most of the ventricular systolic ejection period.

It is important to emphasize that certain innocent heart murmurs may have both a systolic and diastolic component, but an isolated diastolic murmur that is easily heard is very likely to be an abnormal murmur.

Cardiorespiratory Murmur

The cardiorespiratory murmur is the least commonly known systolic heart murmur of the innocent variety. This murmur is thought to be extracardiac in origin and shows striking positional and respiratory variations. The murmur is often noted following pleural and pericardial inflammation during a viral illness. With healing, the pleural and pericardial tissue become scarred and thickened and cause unusual adventitious sounds and vibrations that are closely associated with the systolic and diastolic motions of the heart, respiratory movements of the diaphragm, and pleural reflections surrounding the heart and great vessels. The cardiorespiratory murmur has been noted to occur with high frequency in individuals with chest deformities such as in Marfan's syndrome, in patients with large abdominal masses, and even in pregnant women. On occasion, the murmur acquires an unusual "crunching" quality in mid- or late systole. If the murmur has a high-pitched component, this will mimic the late systolic murmur of "ballooning" or prolapsed mitral valve. The typical murmur of mitral valve prolapse is introduced by a distinct click and is best heard at the cardiac apex. The mitral valve prolapse syndrome is often reported in young adolescent females with frequent chest pains, fluttering sensations of the heart, palpitations with tachycardia, and abnormal findings of ectopic ventricular beats accompanied by T waves and ST segment changes. The echocardiogram will clearly demonstrate the prolapsing posterior leaflet of the mitral valve. In some of the patients, the entire mitral valve annulus may protrude into the left atrium. The echocardiographic demonstration of mitral valve prolapse is shown in Figure 5 and is the confirmatory diagnostic manifestation of the syndrome.

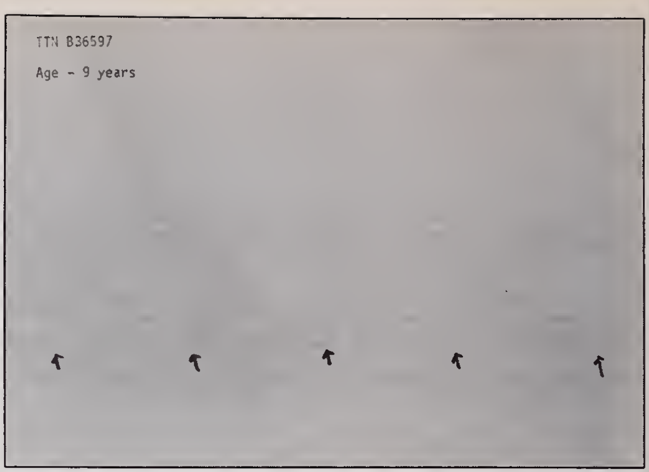

Fig. 5. An M-mode echocardiogram confirmed the presence of "ballooning" or "prolapsing" of the posterior leaflet of the mitral valve in late systole, as shown by the arrows.

Summary

A practical approach for clinicians, which will enable them to recognize and classify the commonly encountered innocent heart murmurs, is to learn their many distinguishing features as outlined in the Table. In addition, a comprehensive assessment of cardiac normality can be made by taking a thorough history of the child's health status, having a keen knowledge of the normal heart sounds, practicing skilled palpation of the cardiac impulses and brachial and femoral pulsations, performing careful and patient cardiac auscultation, and searching for other signs of cardiac overwork and altered function.

It is not always possible to be certain that a heart murmur is innocent. A complete evaluation by a pediatric cardiologist may be required, often including echocardiographic studies in addition to cardiac x-rays and electrocardiography.

Table
Characteristic Features of Common Innocent Heart Murmurs

	Still's Vibratory Precordial Murmur	*Continuous Venous Hum*	*Pulmonic Flow Murmur*
1. Timing	Systolic	Systolic to diastolic	Systolic
2. Duration	Early to mid-systolic	Entire systole to early diastole	About 2/3 of systole
3. Frequency range	Low (70-150 cps)	High frequency	Mid to high frequency (250 to 350 cps)
4. Maximum intensity	Lower left sternal border and apex	Right subclavicular area and upper right sternal border	Pulmonary area (second and third left sternal border)
5. Transmission	Apex to left axilla	Right side of neck	Right and left second left sternal border and back
6. Systolic click	Occasionally present	Not present	Not present
7. Incidence	2-8 years of age; may last to adulthood	Early childhood to adulthood; *NEVER* in newborns	Early childhood to adulthood
8. Effects of exercise and position	Often decreases with exercise; heard in supine position	Increases with exercise; heard in upright position decreases in supine position	Increases with exercise; heard in both upright and supine positions
9. Conditions to differentiate	Small VSD Mitral regurgitation Mild subaortic stenosis Mitral valve prolapse	PDA A-V fistula Branch stenosis of the pulmonary artery	Mild pulmonary stenosis ASD

It is imperative that after their complete evaluation, individuals with innocent heart murmurs be designated healthy and with *no heart disease.* The parents and patients themselves should be reassured and encouraged to enjoy normal unrestricted physical activities, including competitive organized sports; should be advised to continue normal lifestyles and career plans; and be given certification to notify schools, health agencies, and insurance companies that there is no risk associated with an innocent heart murmur.

Family members should be informed that innocent heart murmurs are normal physiological events and indicate neither present inefficiency of the heart nor oncoming heart dysfunction or heart failure.

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Invasive Pulmonary Aspergillosis

Report of a Case

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A case of invasive pulmonary aspergillosis in a 22-year-old man is reported. A ubiquitous fungus, *Aspergillus* can be dangerous to the immunocompromised patient. The invasive disease, usually fatal, is being encountered more frequently, and clinicians should be aware of early signs of aspergillosis in order to treat the condition effectively.

Although treatable, non-invasive aspergillosis is rare, the incidence of the fatal, invasive variety is rapidly increasing. Both invasive pulmonary aspergillosis and systemic aspergillosis have been described in patients with an underlying malignancy or immunosuppression as well as in patients receiving antibiotics. Because the fungus can rarely be isolated from these patients, an antemortem diagnosis is difficult to establish.

The development of fever and new pulmonary infiltrates in an immunocompromised patient should alert the physician to the possibility of invasive pulmonary aspergillosis and systemic dissemination. Early treatment may improve chances for the patient's survival. Although new diagnostic tests are being investigated, open lung biopsy is the recommended procedure to arrive at a definitive diagnosis. Amphotericin B remains the drug of choice for treatment of disseminated disease. Successful control of aspergillosis is reported only occasionally. Most cases have fatal outcomes with diagnosis established only at postmortem examination.

We report a case of invasive pulmonary aspergillosis in a 22-year-old man who eventually died.

Case Report

The patient was a 22-year-old black man with acute lymphocytic leukemia diagnosed two years prior to his last admission. The patient was admitted because his subclavian catheter, which had been placed for chemotherapy on his previous hospitalization, was leaking. Several combinations of chemotherapy had been tried, and at the time of admission, his medications included prednisone, allopurinol, cephalexin, sulfamethoxazole-trimethoprim, levorphanol, and diphenhydramine.

His admission temperature was 101°F, pulse 150/min, respirations 11/min, and blood pressure was 100/20 mm Hg. The patient was diaphoretic, and the dressing over the subclavian catheter was soaked with blood. Breath sounds were diminished, and rales were present over the left lung base. Diffuse, non-tender lymphadenopathy was noted.

The admission chest radiograph revealed alveolar infiltrates in the left lung field. Gram stains of the sputum did not reveal any bacteria. The hemoglobin was 10.3 g/100 ml; the white cell count was 2000/ml with 98% lymphocytes and 2% band forms. Most of the lymphocytes were neoplastic type. A room-air

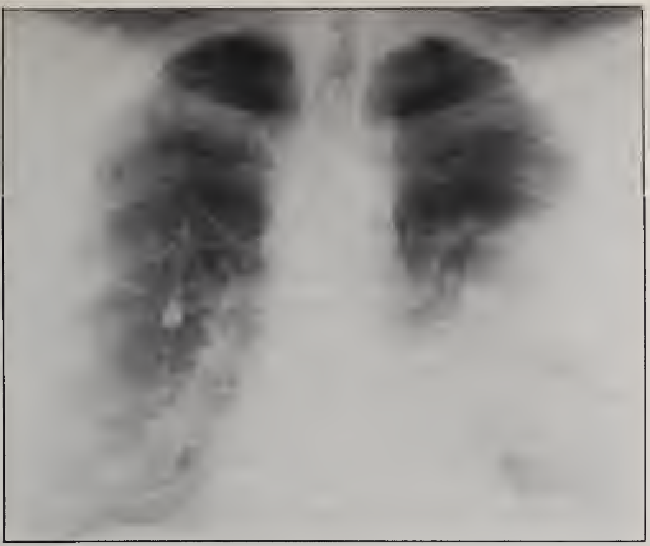

Fig. 1: Chest radiograph on day 28; consolidated left upper lobe associated with left sided pleural effusion.

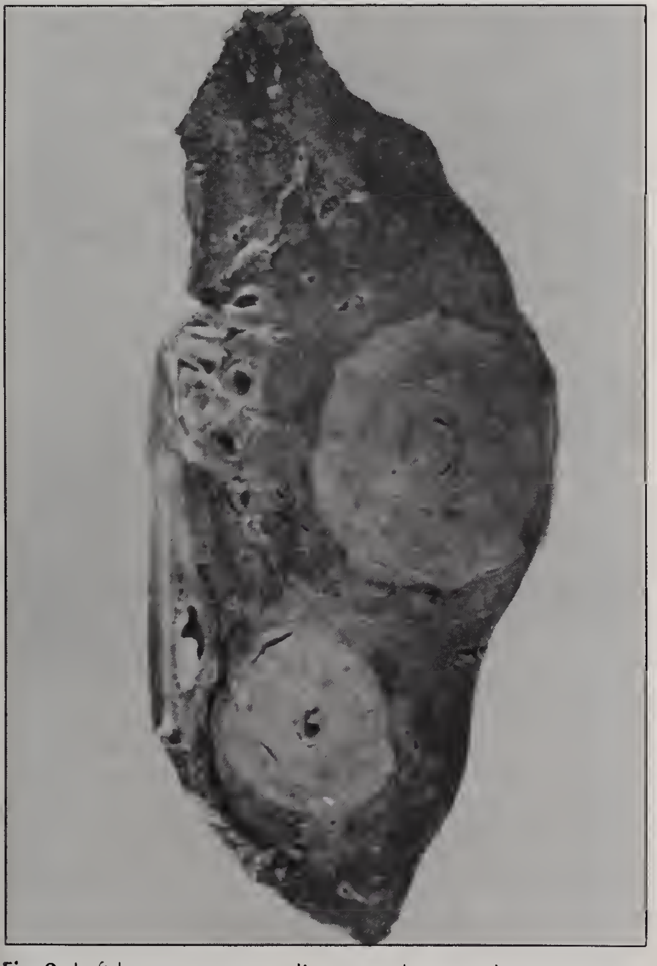

Fig. 2: Left lung at autopsy; discrete pulmonary lesions, 10 cm in diameter each, associated with early central cavitation.

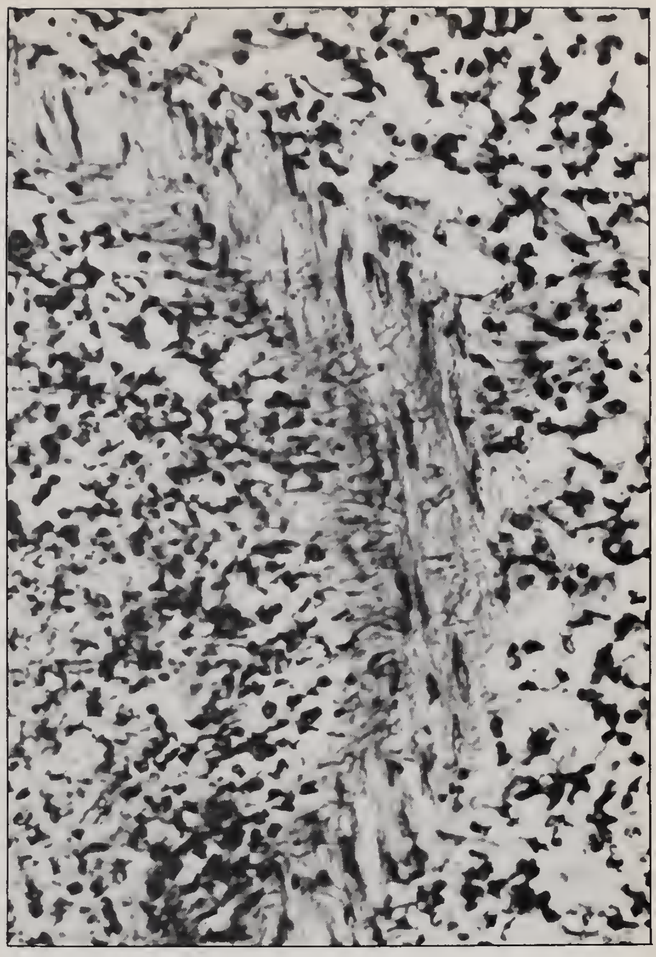

Fig. 3: Section of the lung at the involved area showing septated, branched hyphae of *Aspergillus flavus* invading the vascular wall. (Silver methanine stain, 450X magnification.)

blood gas analysis revealed a pO_2 of 36 mm Hg, pCO_2 of 28 mm Hg, and a pH of 7.43. After the initial restoration of blood pressure, and with the diagnosis of pneumonia, a regimen of tobramycin, carbenicillin, and cephaprin was started until the sputum cultures grew *Candida*. The initial antibiotic regimen was stopped, and amphotericin B, nystatin suspension, and trimethoprim-sulfamethoxazole were started. Subsequently the bronchial washings revealed *Candida albicans* and *Aspergillus* hyphae fragments. The patient remained febrile, and chest radiographs revealed increasing consolidation of the lingula and lower lobes. A left-sided pleural effusion developed (Fig. 1). The pneumonic process was refractory to antibiotics, and the patient died to the 44th day of hospitalization.

Autopsy examination revealed diffuse alveolar damage of both lungs. There were two discrete masses, each 10 cm in diameter, in the left lung with early central cavitation (Fig. 2). Focal ischemic necrosis was present in lobes infiltrated with mycelia of *Aspergillus* (Fig. 3). The fungal hyphae were also present in the fibrinous exudates of pleura and pericardium. *Aspergillus flavus* was isolated from the lung tissue culture on brain-heart infusion blood agar and Sabouraud dextrose agar media.

Discussion

Aspergillus is a saprophytic myceliated fungus that causes the decay of a wide variety of organic debris in which it grows. Although each one of the three major pathogenic species of *Aspergillus* can survive in many natural environments, the Mississippi Valley tends to provide the optimal temperature and humidity for their growth. In this area pure colonies of *Aspergillus fumigatus*, the species most commonly causing asperigillosis in man,[1] can be found in compost heaps when the temperature is above 40°C.[2] Each conidiophore of the Aspergillus rises from the mycelial mass and releases as many as 10,000 spores into the air. The Aspergillus spores remain suspended for prolonged periods of time, making air the major vector for Aspergillus spread. The structure of the spore enhances wind-aided dispersion and as a result, *Aspergillus* spores have been found in unfiltered air samples wherever they have been sought. Nevertheless, there are regional and seasonal variations.[3] The spores gradually settle on objects in contact with air and remain viable for months even in dry locations.[4]

Aspergillus is usually non-pathogenic in normal individuals and can be found among the normal flora of upper respiratory tract. However, this fungus is the most common cause of fungal pneumonia in patients with acquired or primary immunodeficiencies[5] and therefore is the most common mycotic cause of fatal infections.[6] Aspergillosis is rarely described in healthy individuals,[7] but commonly in the immunocompromised host. *Aspergillus* affects the individual either by colonization on the surface epithelia or by invasion of the organs. Aflatoxin-related hepatotoxicity and hepatocellular carcinoma in some African tribes are other disorders caused by *Aspergillus;* these are beyond the scope of this discussion.

The growth of the sporulating mycelia on the mucosa, without invasion of the basement membranes, usually takes place in an individual with a partially responsive immunosystem. This may cause aspergillar sinusitis, the most common fungal infection of the paranasal sinuses, or aspergillar bronchitis. In the latter form, the individual may develop a hypersensitivity reaction, whether type I (IgE-related) or type III (immune-complex), to the colonized *Aspergillus* species, and the patient may present with asthmatic attacks called allergic bronchopulmonary aspergillosis. This may occur in up to 20% of patients with asthma. Non-atopic patients who inhale *Aspergillus* spores may develop extrinsic allergic alveolitis with cough and dyspnea. Colonization of *Aspergillus* in a pre-existing pulmonary cavity, which is usually lined by bronchial epithelium, may appear as a fungal ball called aspergilloma. This may be misdiagnosed as metastatic tumor or pulmonary infarct on a chest x-ray. Non-invasive aspergillosis is a rare complication of burn wound by growth and colonization of the airborne spores. *Aspergillus* infection of the prosthetic cardiac valve is rare,[8] and aspergillosis rarely presents as fungal ball in the urine.[9] In patients with a reactive immune system, the serum precipitins to *Aspergillus* are elevated, and skin test usually shows a positive Arthus response. Elevated IgE and eosinophilia may assist in the diagnosis of allergic bronchopulmonary aspergillosis. Additionally, diagnosis can be established by demonstration of *Aspergillus* on the culture media following biopsy of tissue or bronchial brushing. Treatment of non-invasive aspergillosis may be surgical. Amputation is often the treatment of choice for burn wounds colonized by *Aspergillus*. Antifungal antibiotic therapy is totally ineffective in these patients. The allergic reactions usually respond well to steroid therapy. Steroid drugs not only interfere with hypersensitivity reaction, but also change the bacterial flora of bronchioles to be unfavorable for *Aspergillus* growth.

The incidence of aspergillosis is rapidly increasing.[10] Immunosuppression as the major predisposing factor can be due to natural causes, mainly lymphoproliferative and myeloproliferative disorders, uremia, diabetes mellitus, primary immunodeficiency syndromes, and acquired immunodeficiency syndrome (AIDS).[11] It can also be iatrogenic, involving steroid therapy, cytotoxic chemotherapy or broad-spectrum antibiotics. Since the normal host defense against *Aspergillus* is not well understood, the mechanism of its invasion following immunosuppression is even less clear. Normally, human polymorphonuclear leukocytes readily ingest the inhaled *Aspergillus* spores. A selective deficiency of *Aspergillus*-killing neutrophils in these patients has been described by Pagani et al.[12] Similarly, Fietta et al[13] have demonstrated an impairment of the *Aspergillus*-killing capacity of the neutrophils and alveolar macrophages in a boy with recurrent pulmonary aspergillosis. It is thought that a defect in the oxygen-dependent microbicidal system of these cells makes them unable to kill *Aspergillus*.[6] The role of steroids in this system is not clear. Antibacterial therapy predisposes these patients to infection by reduction of the competing nasopharyngeal bacterial flora.

Invasive aspergillosis and systemic spread almost always start from a pulmonary focus. The impacted spores proliferate on nasopharyngeal epithelium and can be deposited on the upper respiratory tract only if larger than 4.0 microns in diameter. Spores less than 4.0 microns in diameter may be inhaled deep in the alveoli. The pathogenic species that cause pulmonary aspergillosis, therefore, are *A. fumigatus* (2.0 microns) and *A. flavus* (3.5 microns).[14] This sequence of events was well demonstrated by Aisner et al[15] in a prospective study by nasal culture of patients who develop *Aspergillus* in nasal mucosa following loss of normal flora, preceding development of pulmonary aspergillosis. Fungal growth led to bronchial erosion and mucosal ulceration followed by vascular invasion.

Necrotizing vasculitis is the morphological characteristic of invasive aspergillosis. In about 60% of cases, tissue invasion remains confined to the lungs. In the other 40%, *Aspergillus* involves brain, thyroid, kidney, gastrointestinal tract, skin, and liver through hematogenous spread. Therefore, the presence of multiple microscopic foci of necrotizing vasculitis with subsequent thrombus formation in the various organ is morphological evidence of hematogenous dissemination of *Aspergillus*. The tissue reaction is, however, suppurative due to immunosuppression, and the response may be minimal.

The clinical manifestations are the result of the paradoxical combination of thrombosis and hemorrhage, producing varying signs and symptoms. The most common clinical presentation is an acute pneumonia with fever and dyspnea.[16] Hemorrhagic pulmonary infarct with hemoptysis may follow. *Aspergillus* involvement of the central nervous system has been reported in 80 cases.[17] It is usually due to hematogenous dissemination from a primary lung lesion and rarely by direct extension from a contiguous paranasal sinus. Neurological signs and symptoms complicate the diagnosis in these cases. Renal involvement is reported in 12% of disseminated aspergillosis; however, isolated Aspergillus infection of the kidney has been seen in five patients who presented with renal colic.[18] Therefore, the diagnosis of invasive aspergillosis is difficult and is only likely if fungal infection is suspected. Systemic aspergillosis ought to be suspected in immunocompromised patients who present with a pulmonary embolus or infarction.

The chest roentgenogram is abnormal in more than 75% of patients.[19] Roentgenogram findings include segmental and subsegmental consolidation, patchy and nodular infiltrates, and cavitary lesions.[20] Sputum cultures are positive for *Aspergillus* in only about 10% of the cases, and blood cultures are usually negative. Aisner reported that nasal cultures were positive in more than 50% of patients who developed systemic aspergillosis and in 70% of those who had biopsy-proven pulmonary aspergillosis before infiltrates were evident on x-ray.[15] Although nasal cultures are predictive of pulmonary aspergillosis, a negative nasal culture should not decrease the vigor of an aggressive work-up process. It should be emphasized that most diagnoses of invasive aspergillosis are made by lung biopsy,[20] and many authorities require tissue diagnosis before they begin therapy. Serologic diagnosis of invasive aspergillosis has been shown to be of limited use since most immunocompromised patients cannot mount a significant humoral antibody response to *Aspergillus*. Holmberg has reported success with the use of ELISA (enzyme linked immunosorbent assay) and CIE (counter immunoelectrophoresis) techniques.[21] He reported a 70% to 80% sensitivity with these procedures. It appears that the main use of these serologic techniques will be to follow patients' response to therapy. Other investigators have recently reported the ability to detect and purify *Aspergillus* antigen.[22]

Amphotericin B is the recommended drug for therapy. Since survival can be increased when amphotericin B is given within 96 hours of the development of lung infiltrates, it has been suggested that in patients who cannot withstand invasive procedures, such as tissue acquisition, amphotericin B could be used prophylactically in an appropriate clinical setting following positive nasal cultures.[15] The optimal length of therapy is unknown, and the total doses used have varied between 400 mg to 3,000 mg of amphotericin B.[23] Miconazole and 5-fluorocytosine have not been shown to be effective alone or in combination with amphotericin B. A combination of rifampin and amphotericin B may prove to have a synergistic effect.[24] The dosages of steroids and chemotherapeutic agents should be decreased if at all possible. Granulocyte transfusions may be helpful in neutropenic patients.[25, 26] Endocavitary adminstration of amphotericin B for accessible lesions of lungs has been used to prevent systemic toxicity.[27] Inhalation of nystatin is reported to be effective in treatment of cutaneous aspergillosis.[15] Pennington concluded that defervescence and radiographic clearing are good indicators of recovery.[16] Holmberg has suggested the use of *Aspergillus* precipitin antibody titers in a serial fashion can be helpful for following the patients' response to therapy.[21] Patients with increasing titers recovered, while those with decreasing titers died.

Invasive aspergillosis is commonly fatal.[10] Systemic aspergillosis complicating a lymphoreticular or hematopoietic malignancy has a 75% mortality rate. Organ transplant patients usually have a lower mortality rate of about 25%.

Summary

The incidence of *Aspergillus* infection has increased significantly in recent years. One reason for the increase is a population that is increasing in age, resulting in more individuals with underlying medical conditions.

Besides chronic diseases in the geriatric age group creating a predisposing condition, there are an increasing number of young persons who are immunosuppressed. The suppression may be acquired or congenital, due to natural causes or iatrogenically induced by steroid therapy. Because of its rapid increase in incidence, its difficult diagnosis and management, and because invasive aspergillosis often has a fatal outcome, we hope this report will help increase physicians' alertness to the disease and its best management.

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Colonic Intrahepatic Fissural Herniation and Hepatodiaphragmatic Interposition

Significance and Diagnosis

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An abnormal liver scan image may indicate a number of conditions. In this case, ancillary radiographic studies were used to confirm the diagnosis. The variety of causes of focal hepatic defects is discussed.

Focal defects on a radiocolloid liver scan may be produced by a variety of non-pathological conditions listed in the Table. These include anatomic variations of the liver, hepatobiliary ductal system, portal and hepatic venous system, and imprints produced by adjacent structures such as breast, stomach, kidney, skeletal structures, and hepatic flexure of the colon. In this communication we report a case of colonic intrahepatic fissural herniation and hepatodiaphragmatic interposition. The case presented differs from "Chillaiditis syndrome," in which liver scan abnormalities are associated with colon interposition between liver and abdominal wall.

Table
Nonpathological Causes of Hepatic Focal Defect[1-6]

A. Normal variations of hepatobiliary structures
    1. Prominent porta-hepatis
    2. Prominent hepatic vein impression
    3. Localized thinning of left lobe
    4. Prominent gallbladder fossa due to:
        a. Distended gallbladder
        b. Contrast material in the gallbladder
        c. Post-cholecystectomy scarring
    5. Intrahepatic gallbladder
    6. Dilated biliary ducts
B. Defects due to structures adjacent to the liver
    1. Breast shadow
    2. Arm in the field
    3. Gastric impression
    4. Renal impression
    5. Pancreatic impression
    6. Adrenal impression
    7. Skeletal structure related defects
        a. Costal or rib cage impression
        b. Pectus excavatum
        c. Kyphoscoliosis
        d. Lordosis of spine and vertebral impression
        e. Xiphoid process
    8. Hepatic flexure related defects
        a. Colon impression due to residual intraluminal barium
        b. Colon impression without intraluminal contrast
        c. Interposition of colon between liver and abdominal wall (Chillaiditis syndrome)
        d. Diaphragmatic hernia
        e. Intrahepatic fissural bowel herniation
    9. Postsurgical drains
    10. Metallic objects and immobolizing devices

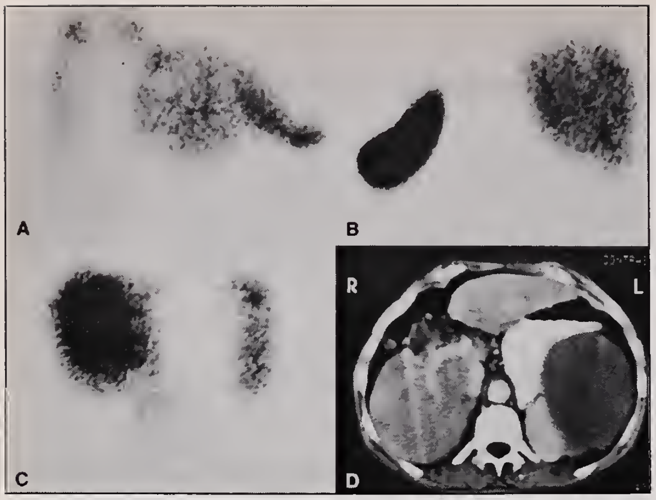

Fig. 1. Anterior (A), posterior (B), right lateral (C) radiocolloid liver image showed a large defect in the right lobe of the liver with in homogenous uptake, and medial displacement of the spleen. A CT scan of the abdomen (D) revealed large bowel herniation into prominent falciform fissure and bowel interposition between liver and abdominal wall. Large subcapsular splenic mass with medium density (H=34) was an incidental finding.

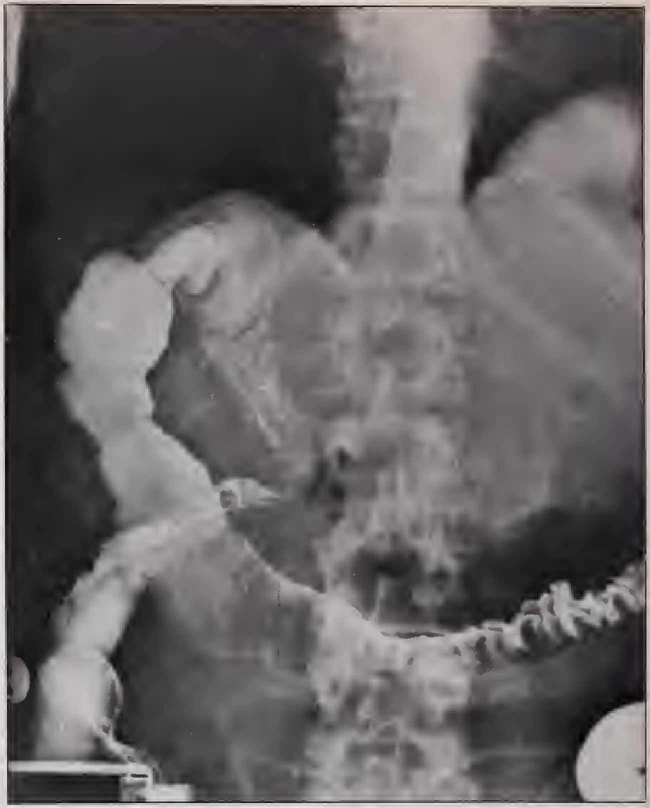

Fig. 2. Barium enema exhibited hepatodiaphragmatic interposition of bowel.

Case Report

A 53-year-old man presented with weight loss and malaise of four weeks duration. Relevant medical history included a laryngeal carcinoma for which he underwent laryngectomy, radical neck dissection, and radiation therapy a year prior to the admission. He was a chronic alcoholic and had been treated for alcoholic hepatitis seven years previously. Vital signs included pulse rate 68 per minute, BP 133/28 and respiratory rate 18. Liver function tests were abnormal with alkaline phosphatase 146 U/l (n=50-136), SGOT 70 U/l (n=3-48), SGPT 189 U/l (n=0-45), LDH 261 U/l (n=60-200) and serum albumin of 3.1 gm/dl (n=3.5-5.5). These values were felt to be consistent with alcoholic liver disease. To exclude the possibility of liver metastasis, a hepatic scintiscan was performed using 4.0mCi (148 MBq) of technetium-99m sulfur colloid. Using a gamma scintillation camera equipped with low-energy all-purpose collimator, 500 K images of the liver and spleen were obtained in several different projections. Figure 1 exhibits anterior (A), posterior (B), and right lateral (C) radiocolloid images. An unusually shaped, large, photon-deficient defect occupying a major portion of the anterior right lobe of the liver was observed. Uptake in the remainder of the liver was inhomogenous. The spleen showed increased uptake relative to liver uptake and appeared to be displaced medially, suggesting the presence of a splenic or extra-splenic mass in the left upper quadrant of the abdomen. A computed tomographic (CT) examination was recommended to exclude a liver mass as the cause of the focal liver defect and for further evaluation of a suspected left upper quadrant mass. The CT scan of the abdomen performed after administering oral radiographic contrast and intravenous diatrizoate demonstrated large bowel herniation into a prominent falciform fissure and interposition of colon between anterior abdominal wall and liver and diaphragm (Fig. 1D). No intrahepatic nor colonic pathological lesion was identified. The splenic lesion was felt to represent a complex cyst or subcapsular hematoma (Hounsfield number=34). Because he had guaiac-positive stools for occult blood, the patient also had a barium enema and an upper gastrointestinal x-ray series performed. No neoplastic process nor ulcerative lesion was detected; however, the hepatic flexure of the colon was found to be interposed between the anterior abdominal wall and the diaphragm (Fig. 2). Review of the chest radiographs revealed air-filled loops of bowel beneath the right hemidiaphragm.

Discussion

Focal defects on hepatic scintiscans produced by the interposition of the colon between liver and abdominal wall or diaphragm have been previously reported.[1, 2] Defects related to hepatic flexure of colon appear as vague, ill-defined, photon-deficient defects and differ from the typical circumscribed intrahepatic focal defects produced by metastasis. In some cases, however, such defects may be confused with metastatic lesions or extrahepatic masses. Awareness of these normal variations is important but only their bizarre shape suggests their presence. Clarification can be achieved by radiographic correlation with a plain film of the abdomen, barium enema, or CT scan. A plain film of the abdomen may reveal air-filled bowel loops beneath the right hemidiaphragm and suggest colonic interposition. A barium enema may also be used to demonstrate colonic interposition. A radionuclide enema may reveal colonic interposition,[2] but appears to be of limited value. A CT scan of the left upper abdomen appears to be the most useful approach for demonstration of colonic interposition and for exclusion of focal hepatic lesions in such circumstances. The presence of bowel herniation into the falciform fissure was only appreciated in this case on the CT scan by virtue of transaxial imaging. The CT scan is valuable in providing better anatomic definition or clarification of the nature of the abnormality. The clinical significance of intrahepatic bowel herniation is not clear, and we feel it is a rare incidental finding.

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Reprints

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Health, Harmon & MSMA

September 25 marks the one year anniversary of Missouri's Department of Health. On June 24, Robert Harmon, M.D., director of the Department of Health, discussed medical and health issues with C. C. Swarens, MSMA executive director. Highlights of the interview appear here.

Swarens: I understand the Department of Health is about to celebrate its one year anniversary.
Harmon: Yes, on September 25.

Swarens: You joined the Department of Health in January of this year. Tell me, have you identified any specific areas that you would like to see the Department deal with immediately — short-range goals?
Harmon: We have identified aid to local health departments, maternal and child health care, and tobacco as some of our top priorities, as well as the indigent care problem.

Swarens: Indigent care?
Harmon: Yes, uninsured indigent care.

Swarens: Will that be a joint effort with the Department of Social Services?
Harmon: That's right.

Swarens: Alright, now, on your local health departments, what do we need to do?
Harmon: There are 109 local health departments in Missouri, and they are important providers of community-based public health services. But they are also short on resources. Local tax revenues haven't been able to keep up with needs, many are short-staffed, and some are even on part-time schedules. We have identified these as top priority.

We were able to obtain $1.5 million new dollars from the last Session of the state legislature for state aid to local health. This will allow the hiring of more public health nurses and about 15 new sanitariums across the state to provide better environmental health services. It will also allow expansion of the function of these local health units.

Swarens: What do you see as the role of nurse practitioners as the Department works with these clinics? Will we run into them more?

Harmon: Well, I see the physician as the leader of the health team. I also think that we are short of providers in a number of locations across the state including rural areas, nursing homes, state institutions and inner-city areas. I think that some of those roles are appropriate for nurse practitioners and, if legislation is passed, physician assistants. Both would be useful members of the health team with proper supervision by physicians. I have seen this work very well with good support from organized medicine in a number of other states including Washington and Arizona. Both states have good statutes and good results in these underserved areas. I think we have adequate numbers of physicians in many other locations.

Swarens: Perhaps more than adequate.

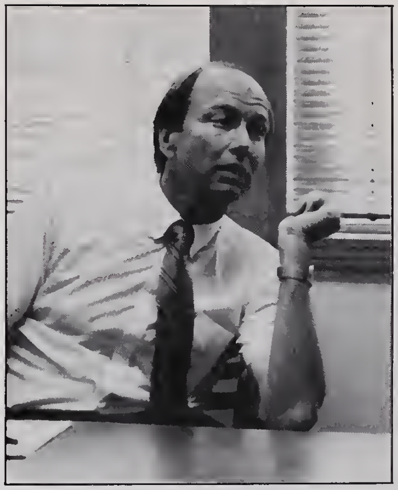
Harmon: And perhaps a surplus. I am most concerned, of course, with primary care for underserved areas.

Swarens: The Department does identify underserved areas in Missouri?

Harmon: Yes, we have a Bureau of Primary Health Care which works with the federal government to designate health manpower shortage areas. We also work with local and state medical societies to review these.

Swarens: Is Missouri concerned with the AIDS situation? Do we have a problem as critical as the national situation?

Tobacco-related diseases account for about one in five funerals across the country. They are linked to 7,000-10,000 deaths per year in Missouri, out of 50,000 total deaths. That is an epidemic in my book.



Harmon: Yes, we have about 115 AIDS cases reported to date since 1981. About half of those have died, and our numbers of cases reported are still going up. We are concerned about it. We expect those numbers to keep increasing, perhaps through the late 1980s.

We are carrying out a number of programs. We have federal grants to run AIDS blood-testing clinics in about 12 locations. Physicians can refer high-risk patients to these sites for free blood testing.

Besides antibody blood testing, we can also do counseling, consultation and physician referral at these sites. We are mainly looking for high-risk patients, such as sexually-active gay males and intravenous drug users who we don't want to donate blood, in order to be tested for AIDS. *(Editor's note: These sites are listed on page 464 of your August Directory.)*

Swarens: Now, on smoking. You came in very strong on smoking which caused a little bit of a wave here and there, so tell us what you are going to do on smoking and the tobacco issue? You know the AMA again came out with more anti-smoking resolutions.

Harmon: Yes, I am very pleased with what the AMA is doing on the tobacco issue. It's very impressive and I hope that a lot of state medical associations will follow. The Department of Health is not working alone in the trend to reduced tobacco use. It's being increasingly recognized as a major public health issue by the federal government and other state governments. Tobacco related diseases account for about one in every five funerals across the country. They are linked to 7,000-10,000 deaths per year in Missouri, out of 50,000 total deaths. That is an epidemic by my book. Something can be done but it is going to require a lot of effort, patience, and cooperation between the public and private sector.

Lately, some interesting things have developed. Kansas City has passed an ordinance restricting smoking in public and private places. This went into effect in July. I think the rest of Missouri will be watching to see how it works. I predict it will work well. The Army has a new policy which went into effect in early July, and the federal government's new smoking new regulations go into effect in October. The trend is for smoking to be prohibited except in designated smoking areas. Therefore, the Department of Health policy which went into effect July 1 is not much different from that. We have had a policy since 1979. This new policy takes another step and prohibits smoking in all areas, including offices, except in designated smoking lounges.

Also, we just had a problem with indoor air pollution at the Truman State Office Building in Jefferson City. A build-up of aerosols, tobacco smoke, and other indoor air pollutants were probably a trigger for illness which then spread into a chain reaction. I would like to compliment the Jefferson City physicians, especially Dr. Don Miller, who were very helpful during this incident. They came over to the Truman Building and helped us a lot.

The Department of Health has more than 300 physicians who work with the local health departments around the state. We deeply appreciate the good support we receive from Missouri's practicing physicians.

Swarens: What can the practicing physicians do to help the Department? Do you need more assistance? Do you need volunteers?

Harmon: I happen to have a list right here! I am on the faculty of the Department of Family and Community Medicine at UMC, and this list comes from a talk I recently gave there.

Swarens: I noticed our governor vetoed the residency program funding, by the way.

Harmon: I regret that. We had hoped the Governor could approve the funding but the revenues did not meet projections. We are going to go in and try again this next cycle.

Referring to what physicians can do, I think especially the primary care physicians, the specialist and subspecialist should get to know their local health departments. Physicians should take a look not only at the population that they serve, but also look beyond the individual patients who came into their offices and view the general population of the community.

Doctors also need to get to know their elected officials. You preach this all the time.

Swarens: You bet.

Harmon: Missouri physicians also need to continue reporting infectious diseases.

Swarens: How do you feel we are doing on such reporting?

Harmon: We are probably receiving only 20-30%. Diseases such as V.D. are not reported as often for obvious reasons. We are getting better on measles, but we still have unreported cases. Chicken pox should be reported and hepatitis is an important one, especially for food handlers. *(Editor's note: Information on reporting communicable disease appears on page 463 of your August Directory.)*

This requires constant reminders, but it is very important. Filling out birth and death certificates accurately is also important. The attending physician is the person who does that. We have handbooks on that.

Occasionally, physicians should review the vital statistics and look at the community diagnosis. What are the leading causes of disability and death?

I think you are sensitive, too, as I am, to criticism of doctors that they are too busy, make a lot of money, and just don't have time for the local community. I understand the hours are long, but I think they are slowly getting better with the increased supply of doctors. Shorter hours are good for doctor's mental health, family health, and can result in more community activity.

Again, doctors are leaders of the health team and if they get involved in problems like automobile accidents, which are a big killer of young people, or the tobacco issue, which is a big killer of older people, then they can really help the situation.

I think you are sensitive, too, as I am, to criticism of doctors that they are too busy, make a lot of money, and just don't have time for the local community. I understand the hours are long, but I think they are slowly getting better with the increased supply of doctors. Shorter hours are good for doctors' mental health, family health, and can result in more community activity. Working for a local health department in a prenatal clinic or a child health clinic, being a consultant on local epidemics, can be very gratifying.

Working for one of the schools is important. Use the local news media as a physicians' resource when local health issues arise. Then, as we said before, physicians should communicate with policy makers and emphasize prevention as well as cure. I think some specialties are already doing a good job of this and most are waking up to it. I am particularly aware of what pediatrics and family medicine are doing in terms of prevention. I think internal medicine is coming around and I am pleased to note that the American College of Surgeons is doing ads on seat belts. Again, people listen to doctors in the media and in the office and that leadership is real important.

On the tobacco issue, physicians are leading the way on cutting down and quitting smoking. I think the smoking rate for doctors is 10%, with 25% of nurses smoking and 33% of the general adult population smokes.

Swarens: What kind of liability protection is there?

Harmon: There will be coverage, we hope, with a bill which Governor Ashcroft signed. This would be local government liability which is good for $800,000; the program will have to be set up. Private insurance will have to kick in first so I guess we don't have any coverage yet for physicians who would volunteer. So we still have a liability issue and that is certainly one of our main issues.

Swarens: The Department of Social Services is really having a problem with indigent OB cases. Is your department involved in this and what are we going to do about it?

Harmon: We are preparing a report with findings and recommendations about the obstetric crisis across the state. It varies from the rural to urban areas depending on the presence of a teaching institution, which can take these cases.

Swarens: Are we talking about indigent cases only or general obstetric cases?

Harmon: I think the problem is especially critical in Medicaid and uninsured pregnant women. We are working with the Missouri State Medical Association and the Missouri Hospital Association to find coverage for physicians who are thinking about leaving the practice of obstetrics. We are trying to provide as much prenatal care as possible under physician supervision by nurse practitioners in rural areas.

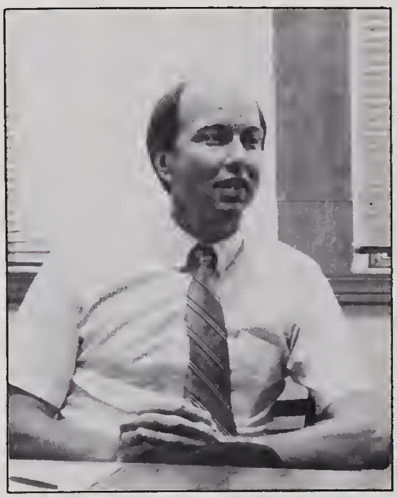
We are keeping the Governor informed as to the problem. We are looking at implementation of this new law that allows liability coverage for local governments. This law will help boards of trustees and nurses in these local health department settings and maybe even county hospitals. Unfortunately, it will not help the private doctors with their coverage. So, we are just trying to keep up with this issue and do what we can, but it is going to take a team effort.

Swarens: What do you think of the particular problems in obstetrics such as the constant push by lay midwives for recognition? What is the Department reaction to that?

Harmon: Well, I support nurse practitioners working with physicians. I have some serious concerns about lay midwives.

Swarens: What will the Department be looking for from the Legislature next year, issues in which our physicians might like to be involved?

We are working with the Missouri State Medical Association and the Missouri Hospital Association to find coverage for physicians who are thinking about leaving the practice of obstetrics.



Harmon: Indigent care may be an important issue. We now have the Indigent Care Report which contains a number of recommendations. We are following this very carefully.

A modest expansion of Medicaid will certainly be discussed, especially for pregnant women and children. We will have to watch the price tag. I am not sure if the funds will be available but it would do much good. Integration and coordination with other maternal and child health programs is important. We have our prenatal clinics program, and fortunately the legislature approved and the Governor signed $889,000 new dollars for county prenatal clinics. Again, a lot of private physicians participate in this program.

We have our Prevention of Mental Retardation Program for high-risk OBs and new-borns. That needs to be better integrated. We are proposing to improve the network of indigent care and uninsured care providers in the state through a grant application to the Robert Woods Johnson Foundation.

And the Department of Health is leading the way by bringing together the different provider groups to try to agree on an approach to planning ahead for a better delivery and finance system. I don't know if the grant will be funded but it has brought people together on this issue, and has brought a good kick-off for this report.

Medicaid case management and pre-paid Medicaid need to be considered. There are certain risks involved.

Swarens: Are we getting over into Social Services or is this an issue where both departments are involved?

Harmon: On Medicaid activities, we try to work jointly with Social Services. Medicaid is still a division of Social Services. I work with Jane Kruse, director of the Division of Medical Services, and Joe O'Hara, director of the Department of Social Services, on these issues. I also serve on the Medicaid Medical Advisory Committee.

Anyway, I think the Missouri Indigent Health Care Study deserves a careful look by the MSMA Council. This is a summary that we put together and I will be happy to provide this to you. *(Editor's note: This report may be obtained by writing the Department of Health, P.O. Box 570, Jefferson City, MO 65102.)*

Swarens: I am sure the Council will be willing to look at it and would be interested in the expansion of the Family Residency Program in Missouri.

Harmon: I personally am supportive of that. There are concerns that the increase in the supply of doctors may make that funding unnecessary. I am interested in the program and I think it would especially help the rural areas. Missouri's rural general and family practitioners are getting older, and we need to keep up the supply of younger physicians going to these rural areas.

Swarens: Any other issue that you would like to see in *Missouri Medicine?*

Harmon: Teen pregnancy. A bill passed this year and it showed a lot of compromises. We already have a Governor's interagency working group on adolescent pregnancy. Joe O'Hara from Social Services and I are co-chairs. The group has been meeting to carry out a survey of existing programs, an assessment of unmet needs, and provide recommendations to the Governor prior to the next Legislative Session. I have spoken to the Governor about the issue, and essentially we need to move ahead in many different areas.

Missouri has a serious teenage pregnancy problem. The statistics are alarming. We have a lot of high-risk pregnancies and many high-risk babies being born. We need to prevent this through a variety of ways such as more family involvement, more church involvement, and better education at home and in the schools. There are other more controversial issues such as family planning. We certainly need to try to prevent abortions.

Swarens: Have you included, and it is tough to do, the Right-To-Life people in any discussions in this area?

Harmon: So far it has been state agencies.

Swarens: OK. Anything else?

Harmon: We are aware of the issue of increasing costs for immunizations and problems with private doctors providing those. I presume we will have more referrals to local health departments. We are still trying to provide vaccine at last year's prices. We can possibly carry on for a year but we are going to have to sit down and talk about this, too.

Swarens: How are the immunization levels across the state?

Harmon: We are holding our own but we are very concerned that with the price increase, and concerns about liability, our levels could drop. They are pretty high.

Swarens: What is our immunization level?

Harmon: They are over 95% generally.

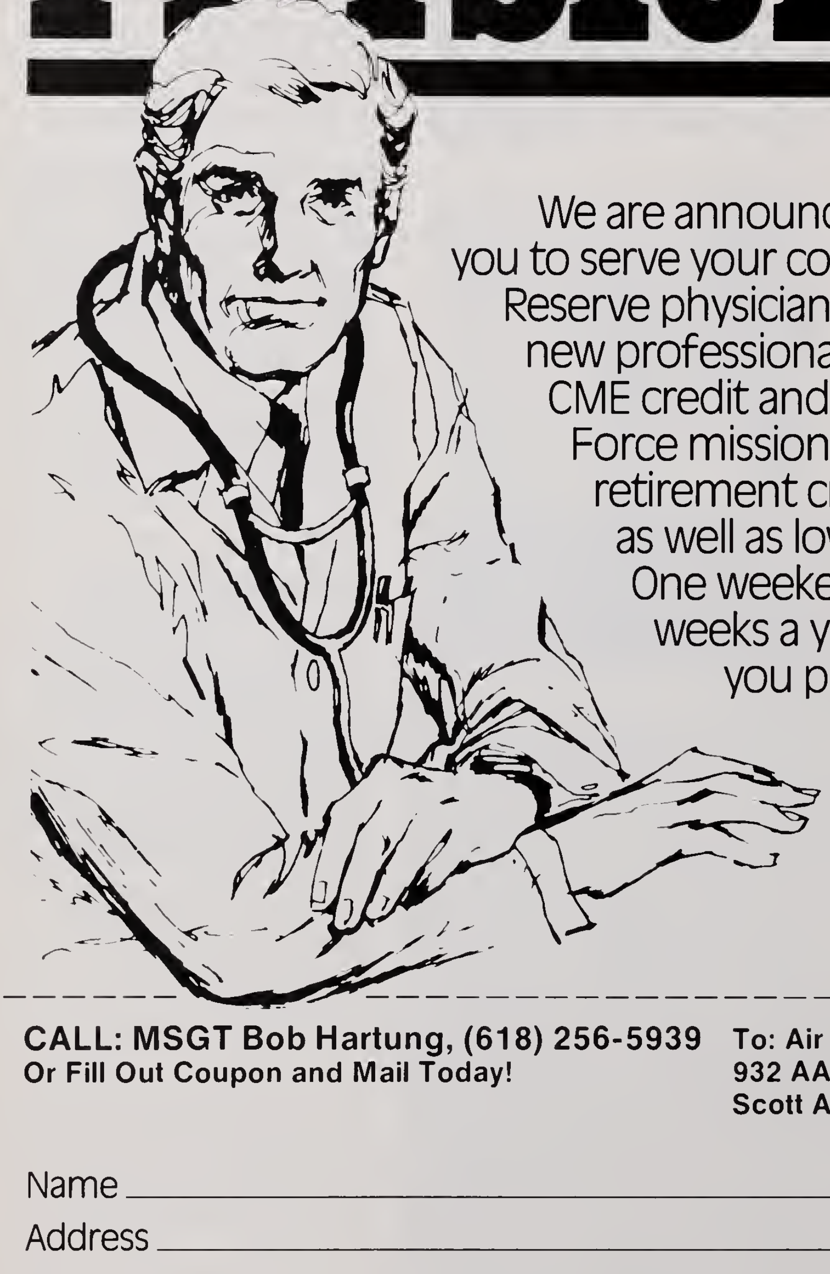
Swarens: That's fantastic.

Harmon: If we can keep that up, we can possibly eradicate measles. Things are going well, but we can't let our guard down. You can bet if the price gets too high and parents get worried about things like pertussis reactions, then we are going to get into trouble. ■

Department of Health Tips for Physicians

- Know Your Local Health Department
- Know Your Population
- Know Your Elected Officials
- Report Communicable Diseases
- Fill Out Vital Records Accurately
- Review Vital Statistics
- Make a Community Diagnosis
- Work for a Local Health Department
- Work with the Schools
- Provide Health Education
- Use the News Media
- Call or Write Policy Makers
- Emphasize Prevention

PHYSICIANS



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■ **Mark E. Axness, M.D.,** 1443 N. Robberson Suite 303, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Axness received his preliminary education at North Dakota State University and his medical degree at the University of California-San Francisco in 1982. He completed his residency training at the Mayo Clinic. He specializes in anesthesiology.

■ **Dennis M. Balfe, M.D.,** 510 S. Kingshighway, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Balfe received his preliminary education at the University of Santa Clara and his medical degree at the Medical College of Wisconsin in 1975. He completed his residency training at St. Mary's Hospital, San Francisco. He specializes in diagnostic radiology.

■ **John M. Berry, M.D.,** Suite 224, 4320 Wornall Rd., Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Berry received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1974. He completed his residency training at the University of Kansas Medical Center in 1980. He specializes in dermatology.

■ **Keith H. Bridwell, M.D.,** 4949 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Bridwell received his preliminary education at Washington University and his medical degree at Washington University in 1977. He completed his residency training at Barnes Hospital. He specializes in orthopedic surgery.

■ **Cornelius L. Britt, M.D.,** 400B S. Truman Blvd., Crystal City, 63019, has become a member of the Jefferson County Medical Society. Dr. Britt received his preliminary education at St. Louis University and his medical degree at the University of Missouri-Columbia in 1978. He completed his residency training at the University of Missouri-Columbia Medical Center. He specializes in orthopedic surgery.

■ **Henry S. Brown, M.D.,** 15 Doctors Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Brown received his preliminary education at the University of Georgia and his medical degree at the Medical College of Georgia in 1978. He completed his residency training at the University of Missouri-Columbia. He specializes in dermatology.

■ **Vera G. Carhart, D.O.,** 306 N. High, Alton 65606, has become a member of South Central Counties Medical Society. Dr. Carhart received her osteopathic degree at the Kirksville College of Osteopathic Medicine in 1939. She specializes in general practice.

■ **Rateswari R. Chintapalli, M.D.,** 1325 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Chintapalli received her preliminary education at St. Theresa's College and her medical degree at Guntur Medical College in 1974. She completed her residency training at Albert Einstein Medical Center, Phila. She specializes in anesthesiology.

■ **Stephen H. Coats, D.O.,** 504 West Main, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Coats received his preliminary education at the University of Ohio and his osteopathic degree at the Kirksville College of Osteopathy and Surgery in 1968. He completed his residency training at Flint Osteopathic Hospital, Flint, Mich. He specializes in general surgery.

■ **Katherine S. Cook, M.D.,** 11th & Bishop, Rolla 65401, has become a member of the Mid-Missouri Medical Society. Dr. Cook received her preliminary education at the University of Illinois and her medical degree at the University of Missouri-Columbia in 1975. She completed her residency training at Emory University and Affiliated Hospitals, Department of Pediatrics. She specializes in pediatrics.

■ **Robert M. Drisko, II, M.D.,** 2929 Baltimore, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Drisko received his preliminary education at Northwestern University and his medical degree at Kansas University in 1979. He completed his residency training at New York Orthopedic Hospital. He specializes in orthopedic surgery.

■ **M. Wayne Flye, M.D.,** 4989 Barnes Hospital Plaza, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Flye received his preliminary education at the University of North Carolina and his medical degree at the University of North Carolina in 1967. He completed his residency training at Case-Western Reserve University, Cleveland, Ohio. He specializes in thoracic and cardiovascular surgery.

■ **Charles G. Freeman, M.D.,** 2320 Truman Blvd., Crystal City 63019, has become a member of the Jefferson County Medical Society. Dr. Freeman received his preliminary education at the University of Missouri and his medical degree at St. Louis University in 1976. He completed his residency training at St. Johns Mercy Medical Center, St. Louis. He specializes in obstetrics and gynecology.

■ **James L. Gentry, M.D.,** 1301 S. Glenstone, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Gentry received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at Franklin Square Hospital, Baltimore, Md. He specializes in family practice.

■ **James A. Glenski, M.D.,** Suite 138, 6400 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Glenski received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. He completed his residency training at Mayo Clinic, Rochester, Minn. He specializes in anesthesiology and pediatrics.

■ **Garth F. Harrison, M.D.,** 6420 Prospect, Suite T-303, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Harrison received his preliminary education at the University of Nebraska and his medical degree at the University of Nebraska in 1979. He completed his residency training at the University of Kansas Medical Center, Kansas City, Kan. He specializes in pulmonary diseases.

■ **Michael Horn, M.D.,** P. O. Box 407, Osceola 64776, has become a member of the West Central Medical Society. Dr. Horn received his medical degree at the University of Missouri-Columbia in 1983. He specializes in general practice.

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- **Michael F. Jones, M.D.,** 8 West Brown St., Liberty 64068, has become a member of the Jackson County Medical Society. Dr. Jones received his preliminary education at Otterbein College and his medical degree at Wright State University in 1985. He is completing his residency training at the University of Missouri-Kansas City Affiliated Hospitals. He specializes in emergency medicine.

- **Ellen M. Kaczmarek, M.D.,** 6313 Michigan Ave., St. Louis 63111, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kaczmarek received her preliminary education at Holy Cross College and her medical degree at State University of New York College in 1981. She completed her residency training at Rochester General Hospital. She specializes in internal medicine.

- **Stuart M. Kagan, M.D.,** 7301 Mission Rd., Suite 244, Prairie Village, Kan. 66208, has become a member of the Jackson County Medical Society. Dr. Kagan received his preliminary education at the University of Wisconsin and his medical degree at the University of Utah in 1969. He completed his residency training at Kansas University Medical Center, Kansas City, Kan. He specializes in pediatrics and pediatric cardiology.

- **Johanna J. Kang, M.D.,** 4989 Barnes Hospital Plaza, Department of Anesthesiology, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kang received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. She is completing her residency training at Barnes Hospital, St. Louis. She specializes in anesthesiology.

- **Donald K. King, M.D.,** 8670 Big Bend Blvd., Webster Groves 63119, has become a member of the St. Louis Metropolitan Medical Society. Dr. King received his preliminary education at Fairfield University and his medical degree at Johns Hopkins University in 1970. He completed his residency training at Barnes Hospital. He specializes in internal medicine and infectious diseases.

- **Alison M. Lynch, M.D.,** 17221 E. 23rd St., Independence 64057, has become a member of the Jackson County Medical Society. Dr. Lynch received her medical education at the University of Witwatersrand in 1963. She completed her residency training at the University of Kansas Medical Center, Kansas City, Kan. She specializes in psychiatry.

- **Victoria L. Martin, M.D.,** 6712 Millcreek, Shawnee Mission, Kan. 66217, has become a member of the Jackson County Medical Society. Dr. Martin received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

- **Joseph L. Mayus, M.D.,** 1900 S. National, Suite 2200, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Mayus received his preliminary education at the University of Miami and his medical degree at the University of Illinois in 1979. He completed his residency training at Barnes Hospital, St. Louis. He specializes in internal medicine and rheumatology.

- **Susan M. Mou, M.D.,** Truman Medical Center, Department of Obstetrics and Gynecology, 2301 Holmes, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Mou received her preliminary education at the University of Pennsylvania and her medical degree at the University of Rochester in 1980. She completed her residency training at Strong Memorial Hospital, Rochester, N.Y. She specializes in obstetrics and gynecology.

- **Richard L. Owens, M.D.,** 720 Oak, Kansas City 64106, has become a member of the Jackson County Medical Society. Dr. Owens received his preliminary education at Rockhurst College and his medical degree at Creighton University in 1951. He completed his internship at St. Mary's Hospital, Kansas City. He specializes in general practice.

- **Craig Peterson, M.D.,** 3231 S. National, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Peterson received his preliminary education at Gustavus Adolphus College and his medical degree at the University of Oklahoma in 1976. He completed his residency training at Fitzsimons Army Medical Center. He specializes in ophthalmology.

- **Michele D. Raible, M.D.,** 114 W. 103rd St., Kansas City 64114, has become a member of the Jackson County Medical Society. Dr. Raible received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. She is completing her residency training at the University of Missouri-Kansas City Affiliated Hospitals. She specializes in internal medicine.

- **Barry N. Rosenblum, M.D.,** 1365 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Rosenblum received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. He completed his residency training at the St. Louis University Hospitals. He specializes in otolaryngology and facial plastic and reconstructive surgery.

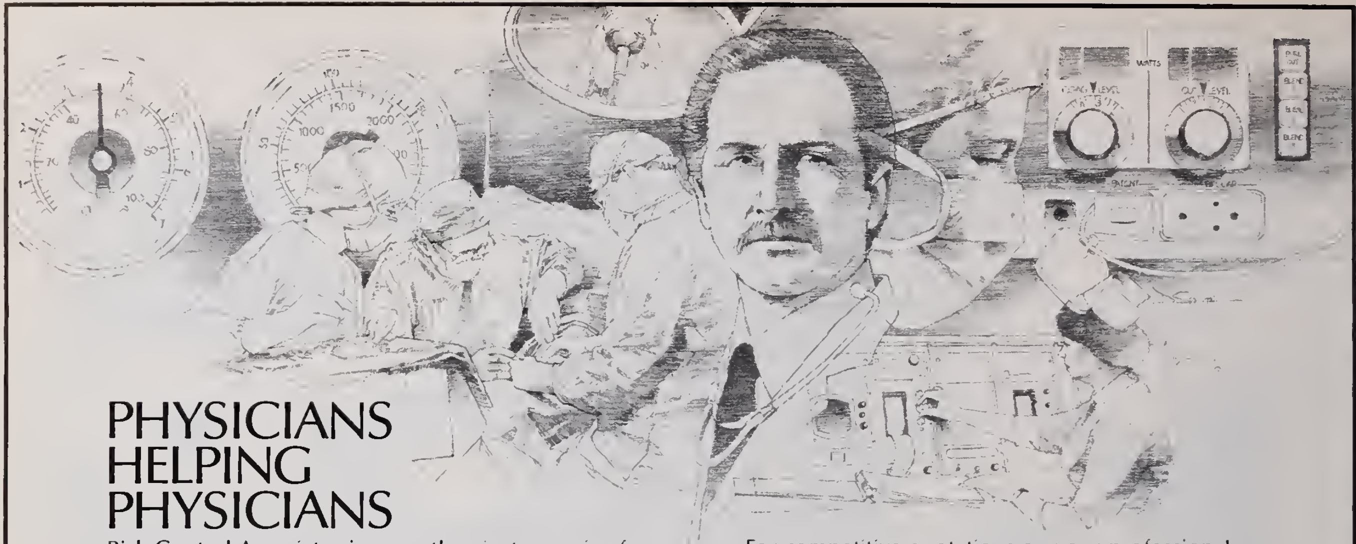
- **Steven L. Russell, M.D.,** North Kansas City Hospital, Emergency Room, 2800 Hospital Dr., Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Russell received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1981. He completed his residency training at the Truman Medical Center. He specializes in emergency medicine.

- **Jerome D. Sachar, M.D.,** 2821 N. Ballas Rd., St. Louis 63131, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sachar received his preliminary education at Amherst College and his medical degree at the University of Missouri-Columbia in 1979. He completed his residency training at Case Western Reserve University, Cleveland, Ohio. He specializes in obstetrics and gynecology.

- **Jeanette S. Schoonmaker, M.D.,** Professional Building, Cherry at Kimbrough, Springfield 65806, has become a member of the Greene County Medical Society. Dr. Schoonmaker received her preliminary education at Union University and her medical degree at State University of New York in 1962. She completed her residency training at State University of New York, Upstate Medical Center, Syracuse, N.Y. She specializes in psychiatry.

- **Kenneth E. Shafer, M.D.,** 1115 Alaska Ave., Suite 212, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Shafer received his preliminary education at the College of Wooster and his medical degree at St. Louis University in 1979. He completed his residency training at Barnes Hospital, St. Louis. He specializes in cardiology.

- **Stanley G. Shaffer, M.D.,** Children's Mercy Hospital, 24th and Gillham Rd., Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Shaffer received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1979. He completed his residency training at Children's Mercy Hospital, Kansas City. He specializes in pediatrics.



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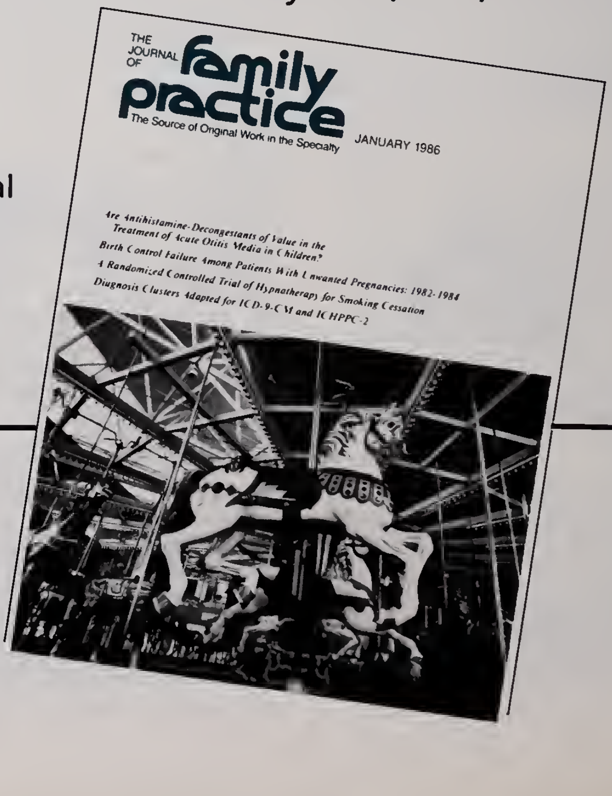

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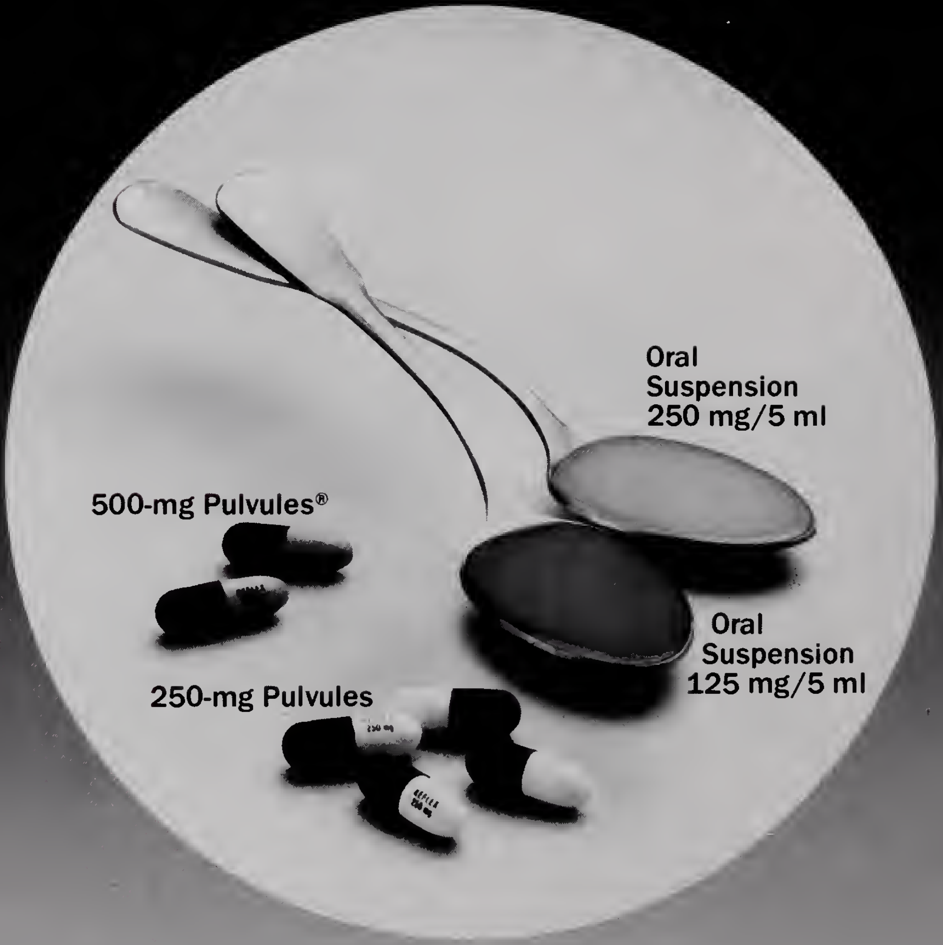
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■ **Moisy Shopper, M.D.,** 4524 Forest Park, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Shopper received his preliminary education at the University College New York University and his medical degree at State University of New York in 1955. He completed his residency training at Kings County Hospital, Brooklyn. He specializes in psychiatry.

■ **Bryan L. Sitzmann, M.D.,** 4030 North Oak Street, Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Sitzmann received his preliminary education at Rockhurst College and his medical degree at the University of Iowa in 1982. He completed his residency training at Siouxland Medical Foundation, Sioux City, Iowa. He specializes in family practice.

■ **Melinda R. Slack, M.D.,** 1235 E. Cherokee, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Slack received her preliminary education at Franklin College and her medical degree at Indiana University in 1977. She completed her residency training at College of Medicine, University of Kentucky. She specializes in neonatology.

■ **James L. Stewart, M.D.,** 2029 Burlington, North Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Stewart received his preliminary education at the University of Missouri-Kansas City and his medical degree at St. Louis University in 1983. He completed his residency training at the University of Kansas Medical Center. He specializes in internal medicine.

■ **Janie R. Vale, M.D.,** 1211 S. Glenstone, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Vale received her preliminary education at the University of Missouri-Columbia and her medical degree at the University of Missouri-Columbia in 1977. She completed her residency training at St. Paul-Ramsey Medical Center, Minneapolis, Minn. She specializes in occupational medicine.

■ **Thomas J. Vinton, M.D.,** 140 Westwoods Dr., Liberty 64068, has become a member of the Clay-Platte County Medical Society. Dr. Vinton received his preliminary education at Creighton University and his medical degree at Creighton University in 1980. He completed his residency training at Baptist Medical Center, Kansas City. He specializes in family practice.

■ **Shaw P. Wan, M.D.,** 632 S. Bishop, Rolla 65401, has become a member of the Mid-Missouri Medical Society. Dr. Wan received his preliminary education at Morehead State University and his medical degree at the University of Louisville in 1977. He completed his residency training at the Tripler Army Medical Center, Honolulu, HI. He specializes in urology.

■ **Steven C. Weaver, M.D.,** Suite 600, 6700 Troost Ave., Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Weaver received his preliminary education at Kansas State University and his medical degree at the University of Kansas in 1975. He completed his residency training at Wilford Hall USAF Medical Center, Lackland AFB, Texas. He specializes in anesthesiology.

■ **Nancy E. Weible, M.D.,** 815 E. Main, Flat River 636301, has become a member of the Mineral Area Medical Society. Dr. Weible received her baccalaureate and medical degree at the Unviersity of Missouri-Kansas City in 1983. She completed her residency training at the Goppert Family Care, Baptist Medical Center. She specializes in family practice.

■ **F. Scott Werner, M.D.,** Suite 9, 5601 NE Antioch Rd., Gladstone 64018, has become a member of the Clay-Platte County Medical Society. He received his preliminary education at the Kansas State University and his medical degree at the University of Missouri-Columbia 1980. He completed his residency training at the Truman Medical Center, Kansas City. He specializes in general surgery.

■ **Philip J. Weyman, M.D.,** 510 S. Kingshighway, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Weyman received his preliminary education at Yale University and his medical degree at Yale University in 1972. He completed his residency training at Mallinckrodt Institute of Radiology. He specializes in radiology.

■ **Jeffrey S. Wheeler, M.D.,** 1423 N. Jefferson, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Wheeler received his preliminary education at the University of South Dakota and his medical degree at the University of Oklahoma in 1976. He completed his residency training at Sacred Heart Hospital, Yankton, South Dakota. He specializes in emergency medicine.

■ **Tommy L. Wood, M.D.,** 7935 Delmar, St. Louis 63130, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wood received his preliminary education at the University of North Carolina and his medical degree at the University of North Carolina in 1981. He completed his residency training at St. Louis University, St. Mary Health Center. He specializes in obstetrics and gynecology.

■ **John D. Yeast, M.D.,** Suite 503, 4400 Broadway, Kansas City 64111, has become a member of the Jackson County Medical Society. Dr. Yeast received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1974. He completed his residency training at the Navy Regional Medical Center, San Diego, Calif. He specializes in maternal fetal medicine.

New Student Members

St. Louis University
Jeffrey D. Ager
Daniel S. Seid
Joseph L. Staggenborg

University of Missouri-Columbia
Carl G. Gold
Steve Kory
Nancy Walker

University of Missouri-Kansas City
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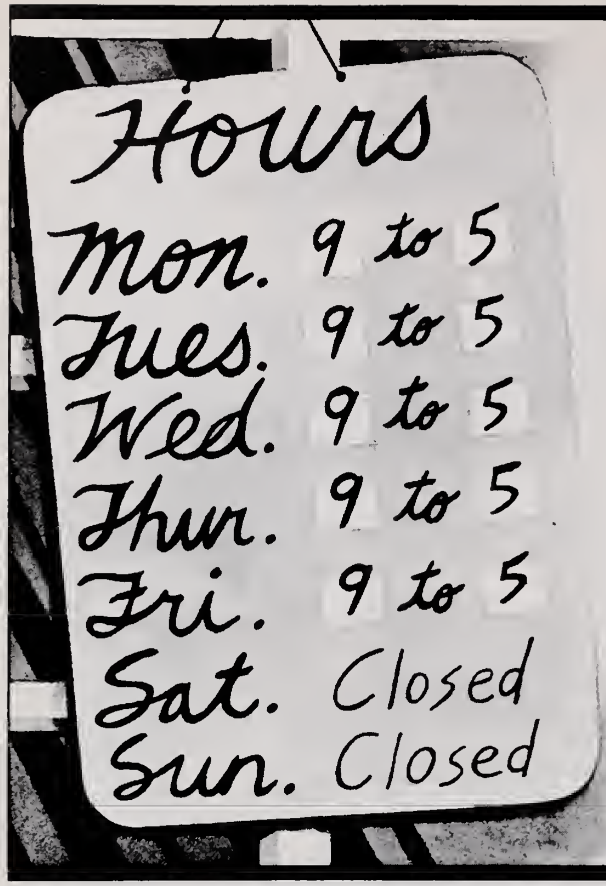

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Medical School News

St. Louis University

■ **Kenneth R. Smith Jr., M.D.,** was elected president of the Society of University Neurosurgeons at the society's annual meeting in Louisville, Ky., May 7-10. Dr. Smith is professor and chief of neurosurgery at St. Louis University Medical Center.

Throughout his medical career, Dr. Smith has been a leader in organized medicine in St. Louis. He is former president of both the St. Louis Metropolitan Medical Society and the St. Louis Society of Neurosurgeons. He has served on the St. Louis City Board of Health and Hospitals and was chairman of the Mayor's Health Care Task Force from 1977 to 1981.

Dr. Smith has been with St. Louis University since 1966. He established the school's residency program in neurological surgery.

■ **Gerald L. Cox, Psy.D.,** has been named assistant clinical director of the Behavioral Treatment Unit (BTU) at St. Louis University Medical Center. The BTU is part of the Division of Behavioral Medicine and treats such problems as depression, anxiety disorders, and psychophysiological reactions.

Dr. Cox brings his expertise in anorexia and bulimia to the unit where he will begin an inpatient treatment program. Prior to coming to the medical center, he was acting associate director of the Counseling and Psychological Services at Colgate University in Hamilton, N.Y., where he was instrumental in developing a multidisciplinary treatment program for anorexic and bulimic students.

Dr. Cox earned his doctorate degree in 1984 from Baylor University in Waco, Texas.

A **Philip and Lillian Katzman Scholarship Fund** has been established at St. Louis University School of Medicine to support M.D. and Ph.D. candidates seeking degrees in biochemistry or related disciplines. The scholarship honors **Dr. Katzman,** who is professor emeritus in the department of biochemistry, and has been active with the school of medicine for the past 59 years.

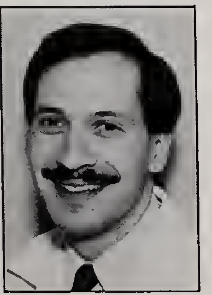
Commenting on the scholarship announcement, William Stoneman, M.D., dean of the school of medicine, said, "Dr. Katzman has had a long and distinguished career here, and he has always been endeared by the students. This is a most appropriate way of recognizing his many contributions to the medical school and ensuring that students will continue to benefit from them."

Dr. Katzman received his doctorate degree from the school of medicine in 1932. He then taught in the department of biochemistry and achieved the rank of professor in 1952. He retired in 1975, but has remained active in the department as professor emeritus.

■ The American Board of Medical Psychotherapists has named **Ronald B. Margolis, Ph.D.,** to its Professional Advisory Council. Dr. Margolis is director of behavioral medicine at St. Louis University Medical Center.

Four hundred nominations were submitted for selection to the 32-member council. Developed in 1982, the American Board of Medical Psychotherapists offers certification review and training to a wide range of professionals practicing psychotherapy with medical and psychiatric populations.

■ **Richard I. Blum, M.D.,** assistant professor of internal medicine, St. Louis University School of Medicine, has been inducted as a member of the North American Society of Pacing and Electrophysiology. He is one of only 12 persons from Missouri who are members of this society. The organization fosters educational and scientific activities respecting the appropriate use of electrophysiology studies and pacemaker technology in the management of heart rhythm disturbances.



Dr. Blum is the associate director of The University Hospital's cardiac arrhythmia study unit and is involved in the electrophysiology studies in which arrhythmia, or irregular heart rhythms, are examined.

Dr. Blum obtained both his undergraduate degree in engineering and his medical degree from Harvard University. He is also associate director of The University Hospital's medical coronary intensive care unit, a member of the American College of Physicians, and a fellow of the American College of Cardiology.

■ **Arthur J. Labovitz, M.D.,** assistant professor, division of cardiology, St. Louis University Medical Center, is the recipient of a $25,000 research grant from the Missouri Affiliate of the American Heart Association.

Dr. Labovitz's research will attempt to evaluate and validate the accuracy of the echo Doppler in assessing the filling function of the heart compared with cardiac catheterization and radionuclide testing.

Dr. Labovitz is currently involved in multiple research studies using Doppler echocardiography including heart muscle and heart valve function. He recently co-authored a book titled "Quantitative Methods of Pulsed and Continuous Wave Cardiac Doppler." He came to St. Louis University Medical Center in 1981 and serves as director of echocardiography and noninvasive hemodynamics at The University Hospital.

University of Missouri-Kansas City

■ UMKC School of Medicine's third group of Alpha Omega Alpha (AOA) members recently were named, and officers were elected. **Louis Portugal** was elected president, and **Mary Beth Esswein** and **Kara Tate** are vice presidents. Other members are: **Keith Bernstein, Dale Broome, Joe Cates, Dawna Clarkston, Clifton Cokingtin, Maria DeCastro, Jim Finnell, David Glaser, Helen Lee, Matt Matava, Eric Schwartzkopf,** and **Dent Underwood.**

■ One-hundred first-year UMKC School of Medicine students attended a three-day orientation in June and began classes in August. The school's Council on Selection was pleased with the superior overall quality of the applicants, which came from an applicant pool that increased slightly from the previous year. The average class-rank percentile is 92; the ACT mean percentile is 93.

■ Eight advanced-standing third-year students also were admitted to UMKC School of Medicine's six-year program. They also came from a highly competitive applicant pool. The eight students are: **Christopher Bagby** of Columbia, Mo., **Karen Eshraghi** of St. Louis, Mo., **Michael Jacoby** of Kansas City, Mo., **John Lindsey** of Fulton, Mo., **Shawn Merys** of Kansas City, Mo., **Joe Snodgrass** of Lockwood, Mo., **Tracy Stevens** of Kansas City, Mo., and **Shawn Wilson** of Prairie Village, Kan.

■ Three members of UMKC School of Medicine's entering class were recipients of the prestigious University of Missouri Curators Scholarships. The recipients are **Melissa R. Dana** of Richmond, Mo., **Julie Gray** of Macon, Mo., and **Ellis Lai** of Higginsville, Mo. Curators Scholarships are awarded only to students nominated by their high-school principal or counselor. They must rank in the top 3% of their class, or be one of the top three students in a class size of fewer than 100. Curators scholars also are expected to have superior scores on standardized college entrance examinations.

■ **Thomas A. Nicholas, M.D.,** medical director of Truman Medical Center-East and chairman of the Department of Community Medicine and Family Practice at UMKC School of Medicine recently was elected president of the American Board of Family Practice. Dr. Nicholas has been involved with the association for many years, and worked with virtually every aspect of helping the specialty grow to one of the largest in the medical community.

■ UMKC School of Medicine recently has seen the addition of several new faculty members who also hold appointments at Truman Medical Center.

New faculty members are: **John B. Chamberlin, M.D.,** who served his Internal Medicine residency at the University of Missouri-Kansas Affiliated Hospitals/Consortium for Health Education, began his appointment July 1. Dr. Chamberlin received his medical degree from the University of Illinois College of Medicine in 1983, and served as house staff president at Truman Medical Center in 1985-86. He is also serving as chief resident in Internal Medicine in 1986-87.

Stephen T. Hustead, D.O., joined the School of Medicine and TMC July 15, after completing a Cardiology fellowship at University Hospital, Madison, Wis., where he also completed his residency in Internal Medicine. Dr. Hustead received his D.O. from Kansas City College of Osteopathic Medicine.

Daniel Kebede, M.D., a gastroenterologist, began his appointment effective July 14. Dr. Kebede most recently completed a fellowship in Gastroenterology/Liver and Pancreatic Diseases at the University of Missouri-Columbia, preceded by a year as chief resident at the University of Virginia Hospitals, Salem-Roanoke, Va. He is a graduate of Aristotelean University Medical School, Thessaloniki, Greece.

Hematologist/oncologist **Alan Lichtin, M.D.,** joined the School of Medicine/TMC staff July 28. He completed his fellowship in Hematology/Oncology at the Hospital of the University of Pennsylvania. Prior to that, he was an intern and fellow at Case Western Reserve University Hospitals, Cleveland. He is a graduate of the University of Cincinnati College of Medicine.

Douglas Willhoite, M.D., a cardiologist, joined UMKC and TMC effective August 1. Dr. Willhoite completed his Cardiology residency at the University of Iowa Hospitals and Clinics, Iowa City, preceded by a Medicine residency at Duke University Hospital, Durham, N.C. He is a graduate of the University of Oklahoma College of Medicine, Oklahoma City.

Jay Robinson, M.D., also joined the teaching staffs. Dr. Robinson most recently completed an EMG fellowship at the University of West Virginia, Morgantown, W.V., preceded by an EEG fellowship at the University of Kansas Medical Center. He completed his Neurology residency at Kansas University Medical Center. He is a graduate of the University of Minnesota School of Medicine.

Both **John Foxworth, Pharm.D.,** and **Stephen L. Dahl, Pharm.D.,** recently joined the staffs of UMKC and TMC. Dr. Foxworth most recently had been associated with UMKC and TMC as clinical assistant professor of Pharmacology and Medicine. Other academic appointments have included assistant professor of Clinical Pharmacy at UMKC School of Pharmacy. He completed his residency in Clinical Pharmacy through Kansas City General Hospital and Medical Center in 1975-76. Dr. Dahl most recently has served as associate professor and clinical assistant professor of Pharmacy Practice at the University of Utah College of Pharmacy, and adjunct instructor, Department of Medicine, at the University of Utah, Salt Lake City.

■ **Edward B. Cross, M.D.,** former vice provost for UMKC School of Medicine, made a return visit to speak on "Emerging Trends in Health Care" this June. Dr. Cross also former assistant surgeon general of Health, Education and Welfare, (HEW), most succinctly is described as a medical statesman; he has made many contributions to health care and medicine in his distinguished career.

The University of Missouri-Columbia

■ **Vanu Bagchi, Ph.D.,** has been named director of development for UMC's Health Sciences Center including the School of Medicine. He is now leading an increased effort to raise private funds for the School of Medicine.

■ **Gerald W. Browning, Ph.D., P.T.;** director and assistant professor of physical therapy, has received the Missouri Physical Therapy Association, Inc., 1986 Outstanding Service Award for Education. This award, announced at the MPTA Spring Convention, recognizes Dr. Browning's contributions to the profession for the past eighteen years and his service in the governance and activity of the MPTA.

■ **Armando R. Favazza, M.D.,** professor and associate chairman of psychiatry, was recently elected councilor of the American Association for Social Psychiatry. An expert in social and cultural psychiatry, Dr. Favazza is the author of more than 40 articles and four books relating to this field.

■ **Margaret A. Flynn, Ph.D.,** has been named professor emeritus of human nutrition, foods and food systems management and family and community medicine, effective September 1, 1986.

■ **Robert Gaines, M.D.,** associate professor of surgery, has been named to the Russell Hibbs Society. This society is a select group of nationally recognized orthopaedic surgeons. Dr. Gaines and **Craig Satterlee, M.D.,** resident in orthopaedic surgery, have just received a grant of $10,000 for "Experimental Evaluation of Spinal Fracture Stabilization Systems" from the Orthopaedic Research and Education Foundation.

■ **Stan Ingman, Ph.D.,** assistant professor of family and community medicine, has been awarded a Postdoctoral Fellowship from the Pew Health Policy

Research Program at the Institute for Health Policy Studies at the University of California School of Medicine in San Francisco. Beginning in September, Dr. Ingman will spend one year at the University of California researching geriatric health care and policy. Over the next five years he plans to compare geriatric services in Missouri with those in Minnesota, California and Geneva, Switzerland.

■ **Ronald Keeney, M.D.**, a 1968 graduate of UMC's School of Medicine and current director of clinical development at Glaxo, Inc. (pharmaceutical manufacturer) has helped establish a student research fellowship sponsored by Glaxo, Inc. The first recipient of the $1500 award, **Mrs. Kathlyne Heilman,** a first year medical student, has been working under the direction of **Michael Cooperstock, M.D.**, associate professor of Child Health, on a new immunoassay system for the detection of Gram negative enteric bacterial antigens in body fluids.

■ **H. D. Kim, Ph.D.**, professor and chairman of pharmacology has recently received a gift of $10,000 from Dr. and Mrs. W. J. Butler of Tucson, Arizona to support his research on glucose transport and energetics in red blood cells and human colonic adenocarcinoma cells.

■ **Edith P. Mitchell, M.D.**, assistant professor of medicine, was appointed to a three-year term on the Cancer Clinical Investigation Review Committee. She will assist the National Cancer Institute in review of cancer clinical trials done by cooperative cancer groups such as the national Surgical Breast Cancer Group and the Radiation Therapy Group.

■ **Karl D. Nolph, M.D.**, director and professor of nephrology, has been awarded a $66,766 grant from the Missouri Kidney Program for "Identification of Diabetic Patients High Risk to Develop Peritonitis and its Prevention through Blood Pressure Control with Enalapril."

■ **John C. Schuder, Ph.D.**, professor of surgery, has received a one-year grant of $21,906 from Cardia Pacemakers, Inc. for "A Paired Study of the Comparative Effectiveness of Certain Unidirectional and Bidirectional Rectangular Waveforms of Current in the Catheter."

■ **Gordon C. Sharp, M.D.**, professor of medicine, has received a one-year $20,000 grant from the Arthritis Foundation for clinical research of arthritis at UMC's Multi-purpose Arthritis Center and Central Missouri Regional Arthritis Center.

■ **Dolores Cikrit, MD,** a fellow in vascular surgery, presented a paper in New Orleans at the 34th Meeting of the North American Chapter of the International Society for Cardiovascular Surgery in June. Co-authoring the paper were **Judith Miles, MD,** assistant professor of child health, and **Donald Silver, MD,** professor and chairman of surgery.

■ Research by **Mostafa S. Fahim, MD,** professor of obstetrics and gynecology, has resulted in the University of Missouri's largest licensing agreement ever. Dr. Fahim has developed Kastrin, a chemical agent for castrating bulls. Pfizer Inc. plans to market the agent in various countries throughout the world, beginning with Brazil, Argentina, Mexico, England, France and Australia, possibly as early as mid-1987. It may take as long as two years before the product will be sold in the United States.

■ **Joseph Gianiacomo, MD,** professor of ophthalmology, presented two papers at international assemblies in Europe. Dr. Giangiacomo delivered one presentation at the International Society of Genetic Eye Disease Meeting in Amsterdam and one for the Roma '86 XXV International Congress of Ophthamology Meeting in Rome. Dr. Giangiacomo was also a co-author of a paper presented at meetings in St. Louis, Los Angeles, and Sarasota, Florida. First and second authors on this paper were **John Fitz, MD,** and **Scott McKnight, MD,** both residents of ophthalmology.

■ **John Hewett, PhD,** professor of medicine, and **Terry TenBrink, PhD,** clinical professor of medicine, each presented a workshop at the National Meeting of the Arthritis Health Professions Association in New Orleans in June. Also at that meeting, Dr. TenBrink, **Marian Minor,** PT, MSPH, clinical instructor, **Alistair Young,** BA, **John Uveges,** MA, ABD, **Jerry Parker, PhD,** clinical assistant professor, **Robert Frank, PhD,** assistant professor, **Katherine Smith,** reserch administrative assistant, **Elaine Smith,** MSN, C-FNP, **Susan Hazelwood,** BS, research associate and **Carole Rodon,** MEd, OTR, clinical instructor, each presented papers. All of these papers have been published in *Arthritis and Rheumatism.*

■ **Martin Katz, PhD,** has joined UMC's School of Medicine as a research assistant professor of ophthalmology. Dr. Katz came from the National Eye Institute in Bethesda, Maryland.

■ **Ramesha Khanna, MD,** associate professor of nephrology, **Karl D. Nolph, MD,** director and professor of nephrology, and **Zbylut Twardowski, MD,** professor of nephrology, contributed to a newly-published nephrology textbook, *Dialysis Therapy.*

■ **Michael C. Perry, MD,** chairman and professor of medicine, has been selected as a member of the technical consulting panel for hematology and oncology as part of the National Study of Resource-Based Relative Value Scales for Physician Services. This 30-month study is being conducted by the Harvard School of Public Health in cooperation with the American Society of Internal Medicine and the American Medical Association to develop resource-based relative value scales for surgical and medical services.

■ **Larry J. Petterborg, PhD,** assistant professor of anatomy, has been awarded a one-year continuation grant of $45,517 for the study of "Fertility Regulatory Action of Melatonin" from the Department of Health and Human Services. Dr. Petterborg, **William J. Krause, PhD,** professor of anatomy, and **Willis K. Paull, PhD,** professor of anatomy, each presented papers at the 99th Annual Meeting of the American Association of Anatomists in Reno, Nevada, this spring.

■ **Charles L. Puckett, MD,** professor of surgery and chief of plastic surgery, has been elected president of the Association of Academic Chairmen in Plastic Surgery.

■ **James M. A. Weiss, MD,** chairman and professor of psychiatry, chaired the First Asian-American Conference on Psychiatric Disorders in New Delhi earlier this year. **Anasseril E. Daniel, MD,** assistant professor of phychiatry, **Armando R. Favazza, MD,** professor of psychiatry, **Syed Husain, MD,** professor of psychiatry, and **Arthur J. Robins, PhD,** professor of psychiatry, each presented papers and chaired plenary sessions at this international conference.

■ UMC's Department of Medicine has just developed and put into use a sophisticated computer network which links approximately 40 computers in the department with each other and with the rest of the campus. A survey of other Big 8 schools shows this system to be more advanced than that in other medicine departments.

■ UMC's Department of Ophthalmology conducted eye screenings in Steelville and Fayette, Missouri, earlier this year. During these screenings, doctors discovered cases of cellophane maculopathy, diabetic retinopathy, and cataracts.

Washington University

■ **Bernard Becker, M.D.,** professor and head of the Department of Ophthalmology at Washington University School of Medicine in St. Louis, has received a $30,000 grant from Research to Prevent Blindness (RPB), a voluntary organization committed to the financial support of eye research.

The award is part of an overall 20% increase in RPB's nationwide support of eye research, Becker notes, and comes at a time when federal budget cuts are causing concern for the continuity of medical research. During the past 27 years the Department of Ophthalmology has received $293,900 in RPB funds. "The significance of these grants cannot be overstated," Becker said. "They provide scientific freedom, and their impact is felt at every level of our research program."

Washington University has one of the world's largest research programs devoted to ophthalmology and visual science. On-going research projects include studies of glaucoma, ocular manifestations of diabetes, abnormal retinal biochemistry and other eye diseases. The university is one of more than 50 medical institutions across the country whose eye research programs are assisted by annual grants from RPB.

■ **Oliver H. Lowry, M.D., Ph.D.,** distinguished professor emeritus and lecturer at Washington University School of Medicine in St. Louis, has received a grant from the American Cancer Society to support his research on the cytochemistry of the nervous sytem.

The Ruby J. Levinson Memorial grant totals almost $73,000. Lowry will use it to continue his study of the nervous system at the cellular level, with particular emphasis on the chemistry of various cell types in brain tumors.

Lowry, an internationally acclaimed researcher, came to Washington University School of Medicine in 1947 as professor and head of the Department of Pharmacology, and served in that capacity from 1947-76. He also served as dean of the School of Medicine from 1955-58.

Lowry received both his M.D. degree and a doctorate in biochemistry from the University of Chicago in 1937. As a member of numerous national scientific committees, including the National Academy of Sciences, he has widely influenced research in medical science, particularly in the areas of neurobiology, neurochemistry, and analytical biochemistry. He has received funding from the American Cancer Society since 1948.

■ **Michael M. Karl, M.D.,** has been elected as the part-time representative to the Executive Faculty of Washington University School of Medicine in St. Louis.

Karl joined the medical school faculty in 1940, and was named professor in 1972. He is a staff physician at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center, and is also on staff at St. John's and St. Luke's hospitals.

Karl received his medical degree in 1938 from the University of Louisville.

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September

17-20 **Annual Postgraduate Symposium on Internal Medicine** — Location: Kansas City Alameda Plaza Hotel. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

24 **New Guidelines for the Management of Mild Hypertension** — Location: The Sheraton Plaza Hotel, West Port Plaza, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Ave., St. Louis, MO 63104. 314/577-8167.

24-25 **Central Nervous System Disorders of Aging** — Location: St. Louis Clarion Hotel. Contact: Symposium Secretary, VA Medical Center, GRECC (111G-JB), St. Louis, MO 63125. 314/894-4659.

24-26 **Two-Dimensional Doppler Echocardiography** — Location: The Omni International Hotel at St. Louis Union Station. Contact: St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

25-26 **Injuries and Injury Prevention/Pediatric Update** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

25-26 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29-30 **Missouri Perinatal Association Clinical Conference** — Location: Hilton Inn, Columbia. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

October

1 **Psychiatry** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

2 **Anxiety and the Heart** — Location: The Columbia Hilton in Columbia, MO. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

4-5 **Infectious Diseases Conference** — Location: Tan-Tar-A Resort, Osage Beach. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

9-11 **29th Annual Physicians Weekend** — Location: MA217 Auditorium, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 **Fertility Awareness and Natural Family Planning: Applications to the Adolescent and Adult** — Location: St. Louis University School of Nursing. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

17 **American Cancer Society: Pediatric Oncology Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

17 **The Ethical Dilemma: Limited Resources — Difficult Decisions** — Location: The Hilton Inn Conference Center, Columbia, MO. Contact: Boone Hospital Center's Affiliated Services, Columbia, MO. 314/875-3712.

17-19 **Missouri Thoracic Society Ozark Chest Conference VI: Pleural Disease and Lung Cancer** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Sheldon R. Braun, M.D., UMC Hospital and Clinics, Room MA 419, Division of Pulmonary and Critical Care Medicine, 1 Hospital Drive, Columbia, MO 65212. 314/882-2991.

21-22 **Medicine and Religion: Ethics of Sexuality and Reproduction** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

24 **Contemporary Drugs of Abuse** — Location: Clarion Hotel, South 4th St., St. Louis, MO. Contact: Regional Poison Center, 1465 S. Grand Blvd., St. Louis, MO 63104. 314/772-8300.

24-25 **Emergency Respiratory Care** — Location: Doubletree Hotel, Overland Park, KS. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29 **Oncology Update** — Location: Breckenridge Inn Frontenac, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

30-31 **Chronic Obstructive Pulmonary Disease** — Location: Columbia Hilton. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

November

5 **Pediatric Neurology Update** — Location: Danis Auditorium, Cardinal Glennon Children's Hospital, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

5-6 **Advanced Cardiac Life Support Provider Course** — Location: Student Center, Fransisco Lounge, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4488.

7 **Advanced Cardiac Life Support Instructor Course** — Location: Student Center, Fransisco Lounge, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4488.

6-8 **Clinical Allergy for the Practicing Physician** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

6-8 **Annual Fall Clinical Conference,** Kansas City Southwest Clinical Society — Location: Alameda Plaza Hotel. Contact: Linda F. Smutz, Executive Director, 222 W. Gregory, Kansas City, MO 64114. 816/523-3383.

14-16 **13th Annual Symposium: Anesthesia and the Geriatric Patient** — Location: St. Louis Marriott Pavilion Hotel. Contact: Geriatric Symposium, Department of Anesthesiology, Box 8054, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, MO 63110.

December

3 **Cardiovascular Medicine Today: Theory and Practice** — Location: King Henry VIII Lodge and Inn, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Angina Pectoris** — Location: Pending. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Magnetic Resonance Imaging** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

10 **Fifth Annual Symposium in Geriatric Medicine** — Location: Holiday Inn Westport, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4488.

12-13 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

February 1987

4-6 **Seventh National Conference on CAPD** — Location: Westin Crown Center, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

28-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

May

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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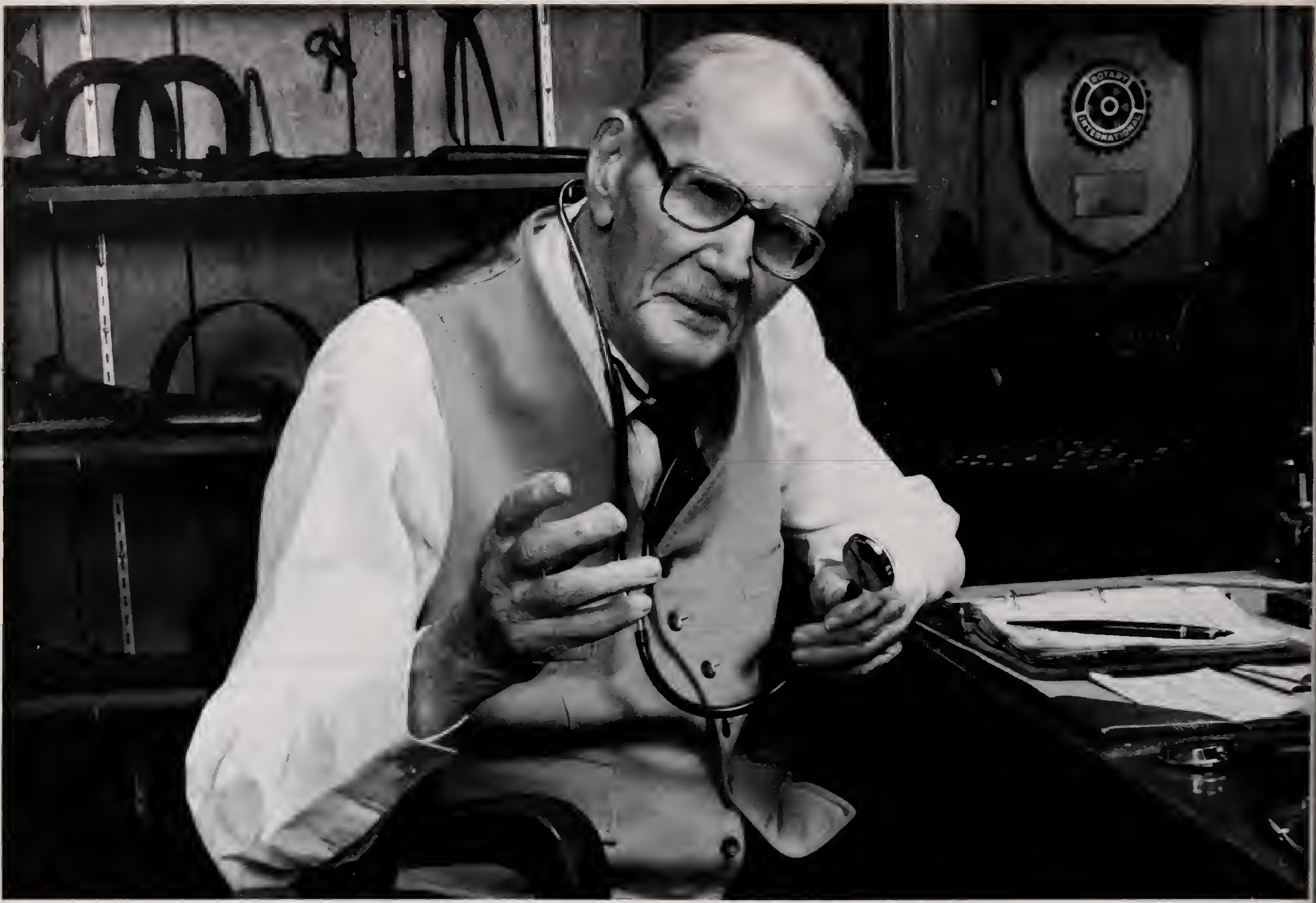

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Thirty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during May 1986 and 31 qualified during June 1986. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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In Memoriam

- **Daniel R. Biello, M.D.,** 510 S. Kingshighway, St. Louis 63110; graduate of Case Western Reserve University, 1973; member of the St. Louis Metropolitan Medical Society; age 39; died June 4, 1986.
- **Dillard M. Eubank, M.D.,** 23090 Jenkins, Raymore 64083; graduate of Baylor College, 1933; member of the Jackson County Medical Society; age 86; died June 24, 1986.
- **John A. Griffith, M.D.,** 6500 Granada Dr., Prairie Village, Kan. 66208; graduate of the University of Kansas, 1943; member of the Jackson County Medical Society; age 68; died May 30, 1986.
- **Mary J. Heisel-Rigolosi, M.D.,** 9150 E. 41st Terr., Kansas City 64133; graduate of the University of Missouri-Kansas City, 1975; member of the Jackson County Medical Society; age 37; died July 17, 1986.
- **Earl P. Holt, M.D.,** 5505 Delmar Blvd., St. Louis 63112; graduate of the Duke University, 1945; member of the St. Louis Metropolitan Medical Society; age 64; died May 20, 1986.
- **Victor T. Jones, M.D.,** 1301 Boonslick, St. Charles 63301; graduate of Washington University, 1953; member of the St. Charles-Lincoln County Medical Society; age 67, died May 9, 1986.
- **John R. Kuhn, Jr., M.D.,** 625 Jaccard St., Joplin 64801; graduate of Jefferson Medical College, 1930; member of the Jasper County Medical Society; age 83; died April 24, 1986.
- **Charles H. Lewellen, M.D.,** 122 S. 3rd St., Louisiana 63353; graduate of the University of Louisville, 1941; member of the Pike County Medical Society; age 78; died May 9, 1986.
- **Berwyn H. Moen, M.D.,** 902 Edmond St., St. Joseph 64502; graduate of the University of Iowa, 1940; member of the Buchanan County Medical Society; age 69; died April 21, 1986.
- **C. Gordon Stauffacher, M.D.,** 1313 W. Broadway, Sedalia 65301; graduate of the Washington University, 1932; member of the Pettis County Medical Society; age 79; died May 23, 1986.
- **Van W. Taylor, M.D.,** 54 Church St., Bonne Terre 63628; graduate of Rush Medical College, 1927; member of the Mineral Area Medical Society; age 86; died July 20, 1986.

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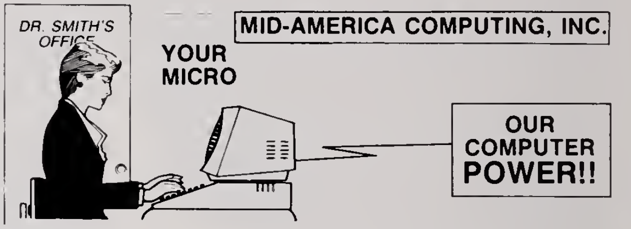
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■ Auxiliary Message

Continued from page 619

and I will be happy to put you in touch with the right person for your membership area. I would like to think that each of you will be contacted personally either by your local Auxiliary or by one of the district directors or state officers. However, we know that our information is not always complete or up-to-date. I sincerely hope that you would feel comfortable in initiating the contact. We truly do want each Missouri physician's spouse to have the information and opportunity to join us . . . we want to find all our missing "KEYS" this year!

Eileen Dyer (Mrs. Gary)
802 No. 25th St.
St. Joseph, MO 64506
816-364-2764

This Date in Medical History SEPTEMBER

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1858 *Anatomy, Descriptive and Surgical* is published by Henry Gray (1825-1861).

2

1952 First cardiac surgery in which deep-freezing technique is used: Dr. Floyd John Lewis operates on a 5-year-old girl at the University of Minnesota at Minneapolis.

1800 Willard Parker, American surgeon is born. He was the first American to operate successfully on an abscessed appendix.

4

1940 Hans Zinsser, American physician, microbiologist, philosopher and poet dies. He isolated the germ causing typhus and developed a vaccine. He wrote *Rats, Lice and History*.

1965 Albert Schweitzer, musician, philosopher and medical missionary dies.

6

1891 H. C. Dalton performs the first suture of the pericardium during an operation on a 22-year-old man stabbed in the chest.

7

1677 Stephen Hales, vicar of Teddington, is born. He was the first to measure blood flow, blood volume and blood pressure in his *Statical Essays* (1731-1733).

1888 Edith Eleanor McLean is born weighing 2 pounds, 7 ounces, in New York City. She is the first premature infant to be put in an incubator or "hatching cradle."

1922 William Stewart Halsted, American surgeon, one of the founders of the Johns Hopkins Medical School, dies. The first pair of rubber surgical gloves were made at his order for his chief operating room nurse, Caroline Hampton. Otherwise her eczema would have forced her to retire; she later became his wife.

1936 Berkeley George Andrew Moynihan, British abdominal surgeon who popularized duodenal ulcers and introduced the concept "hunger pain" felt by patients with such ulcers several hours after eating. "Statistics . . . will prove anything, even the truth."

8

1867 Dr. Samuel A. Mudd, a Confederate sympathizer who had set the leg of John Wilkes Booth and had been sentenced to life imprisonment as a result, is released from his cell at Fort Jefferson, Florida, to help with an outbreak of yellow fever. He was pardoned by President Andrew Johnson a year and a half later.

1935 ENT specialist Dr. Carl Austin Weiss assassinates the "Kingfish," Senator Huey P. Long of Louisiana and is killed by Long's bodyguards.

11

1952 An artificial aortic valve designed by Dr. Charles Anthony Hufnagel is fitted to a patient at Georgetown University Medical Center.

13

1851 Walter Reed, American physician, head of the United States Army Yellow Fever Board, is born.

14

1849 Ivan Pavlov, Russian physician, physiologist, behavioral psychologist and Nobelist, is born.

15

1884 The use of cocaine as a local anesthetic is demonstrated at the Heidelberg Congress of Ophthalmology.

1613 English essayist and poet Sir Thomas Overbury is murdered because of the sentiments expressed in his poem *A Wife*. His becomes the first recorded trial of a medical man for a serious crime in England. Lord Rochester and the Countess of Essex who ordered the murder by poison (rosalgar) are pardoned; the doctors involved, Richard Weston and James Franklin, are executed.

16

1819 John Jeffries, American physician and balloonist, dies. He delivered the first public lecture on anatomy in New England in 1789 and completed the first air crossing of the English Channel in 1785.

18

1888 The American Pediatric Society is founded.

19

1782 Harvard Medical School is founded.

1934 Richard Raskind, American ophthalmologist and tennis coach to Martina Navratilova, is born. Dr. Raskind is unique in having lost U.S. championships in both the men's and women's divisions, the latter under the name of Renee Richards. Her autobiography was titled *Second Serve*.

21

1948 Phillip Showalter Hench and Edward C. Kendall administer compound E (cortisone) to patients with arthritis.

23

1939 Sigmund Freud, Austrian neurologist and psychiatrist, dies. "After forty-one years of medical activity, my self-knowledge tells me that I have never really been a doctor in the proper sense. I became a doctor through being compelled to deviate from my original purpose; and the triumph of my life lies in my having, after a long and round about journey, found my way back to my earliest path. I have no knowledge of having had in my early years any craving to help suffering humanity . . . I scarcely think, however, that my lack of genuine medical temperament has done much damage to my patients."

25

1493 Christopher Columbus leaves Cadiz for his second voyage to the New World. Diego Alvarez Chanca, physician to Ferdinand and Isabella, is appointed fleet surgeon.

28

1895 Louis Pasteur, French chemist and bacteriologist, dies.

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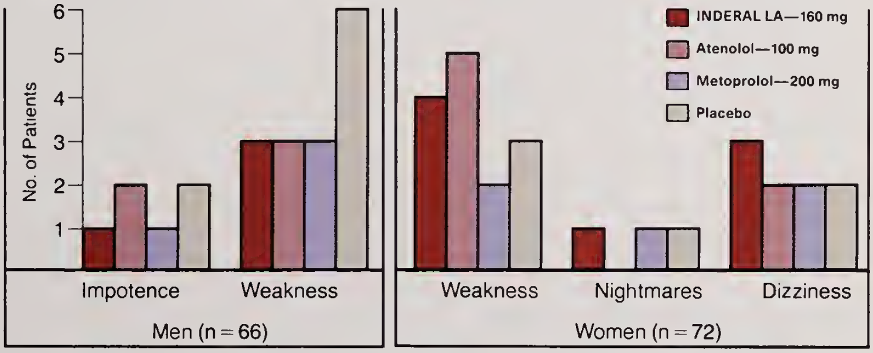

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*

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INDERAL LA and INDERIDE LA Capsules should not be considered simple mg-for-mg substitutes for INDERAL and INDERIDE Tablets. Please see package circulars

CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease In patients with renal disease, thiazides may precipitate azotemia In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma

Thiazides may add to or potentiate the action of other antihypertensive drugs Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL Propranolol should be used with caution in patients with impaired hepatic or renal function Propranolol is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that propranolol may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS Propranolol is excreted in human milk Caution should be exercised when propranolol is administered to a nursing mother

PEDIATRIC USE: Safety and effectiveness in children have not been established

Hydrochlorothiazide: GENERAL: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids Medication such as digitalis may also influence serum electrolytes Warning signs irrespective of cause are Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability) Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease) Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening In actual salt depletion, appropriate replacement is the therapy of choice

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy

Insulin requirements in diabetic patients may be increased, decreased, or unchanged Diabetes mellitus which has been latent may become manifest during thiazide administration

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy

Thiazides may decrease serum PBI levels without signs of thyroid disturbance

Calcium excretion is decreased by thiazides Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS Thiazide drugs may increase the responsiveness to tubocurarine

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient Thiazides may decrease arterial responsiveness to norepinephrine This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use

PREGNANCY Pregnancy Category C. Thiazides cross the placental barrier and appear in cord blood The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult

NURSING MOTHERS: Thiazides appear in human milk If use of the drug is deemed essential, the patient should stop nursing

PEDIATRIC USE. Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular. Bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System: Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia; visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss, emotional lability; slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation; mesenteric arterial thrombosis, ischemic colitis

Allergic Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory. Bronchospasm.

Hematologic. Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence; and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

Hydrochlorothiazide:

Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis, sialadenitis

Central Nervous System: Dizziness, vertigo; paresthesias; headache; xanthopsia

Hematologic Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia

Cardiovascular. Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics)

Hypersensitivity Purpura, photosensitivity, rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis); fever; respiratory distress, including pneumonitis, anaphylactic reactions

Other. Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn

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REFERENCE:

1. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily *Arch Intern Med* 1985;145 1321–1323

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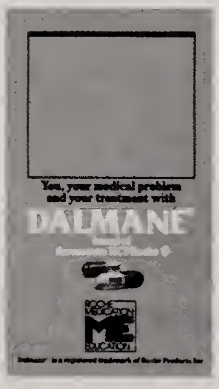
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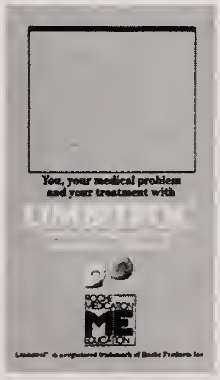
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Missouri Medicine

Journal of the Missouri State Medical Association

October 1986

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this issue:

Desmoplastic Fibroma of Bone

Congenital Radio-ulnar Synostosis

Intramural Diverticulosis Simulating Aphthous Ulceration of the Colon

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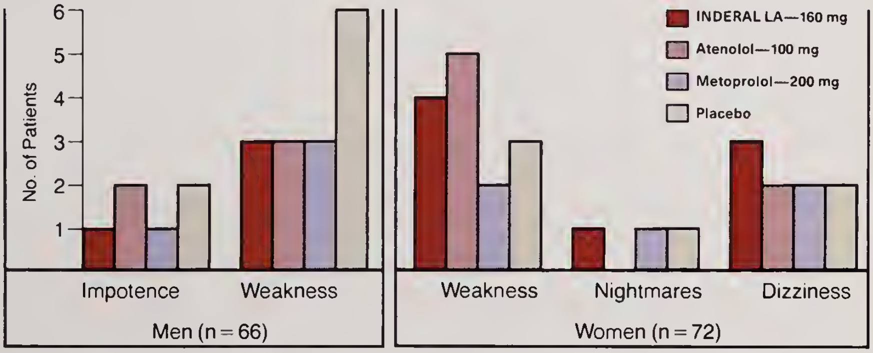

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CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in. 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible)

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease In patients with renal disease, thiazides may precipitate azotemia In patients with impaired renal function, cumulative effects of the drug may develop

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma

Thiazides may add to or potentiate the action of other antihypertensive drugs Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL Propranolol should be used with caution in patients with impaired hepatic or renal function Propranolol is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that propranolol may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY: Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

NURSING MOTHERS. Propranolol is excreted in human milk. Caution should be exercised when propranolol is administered to a nursing mother

PEDIATRIC USE Safety and effectiveness in children have not been established

Hydrochlorothiazide: GENERAL Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids Medication such as digitalis may also influence serum electrolytes Warning signs irrespective of cause are. Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability) Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather, appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening In actual salt depletion, appropriate replacement is the therapy of choice

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy

Thiazides may decrease serum PBI levels without signs of thyroid disturbance

Calcium excretion is decreased by thiazides Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function

DRUG INTERACTIONS Thiazide drugs may increase the responsiveness to tubocurarine

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use

PREGNANCY Pregnancy Category C. Thiazides cross the placental barrier and appear in cord blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult

NURSING MOTHERS Thiazides appear in human milk If use of the drug is deemed essential, the patient should stop nursing

PEDIATRIC USE Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular Bradycardia, congestive heart failure, intensification of AV block, hypotension; paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System Lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal Nausea, vomiting, epigastric distress, abdominal cramping. diarrhea, constipation; mesenteric arterial thrombosis; ischemic colitis

Allergic Pharyngitis and agranulocytosis, erythematous rash; fever combined with aching and sore throat; laryngospasm and respiratory distress

Respiratory Bronchospasm

Hematologic Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous Alopecia, LE-like reactions, psoriasiform rashes, dry eyes; male impotence; and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

Hydrochlorothiazide:
Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (infrahepatic cholestatic jaundice); pancreatitis, sialadenitis

Central Nervous System. Dizziness, vertigo, paresthesias, headache; xanthopsia

Hematologic. Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia

Cardiovascular. Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics)

Hypersensitivity Purpura, photosensitivity; rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis); fever, respiratory distress, including pneumonitis; anaphylactic reactions.

Other. Hyperglycemia, glycosuria, hyperuricemia, muscle spasm; weakness, restlessness, transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn

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REFERENCE:

1. Ravid M, Lang R, Jutrin I The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily *Arch Intern Med* 1985,145:1321–1323

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"**Twin Hulls,**" 1986 watercolor by John William Fries, M.D., of St. Louis. Dr. Fries is Clinical Professor of Radiology at St. Louis University School of Medicine as well as a Medical Director of Radiology at St. Anthony's Medical Center.

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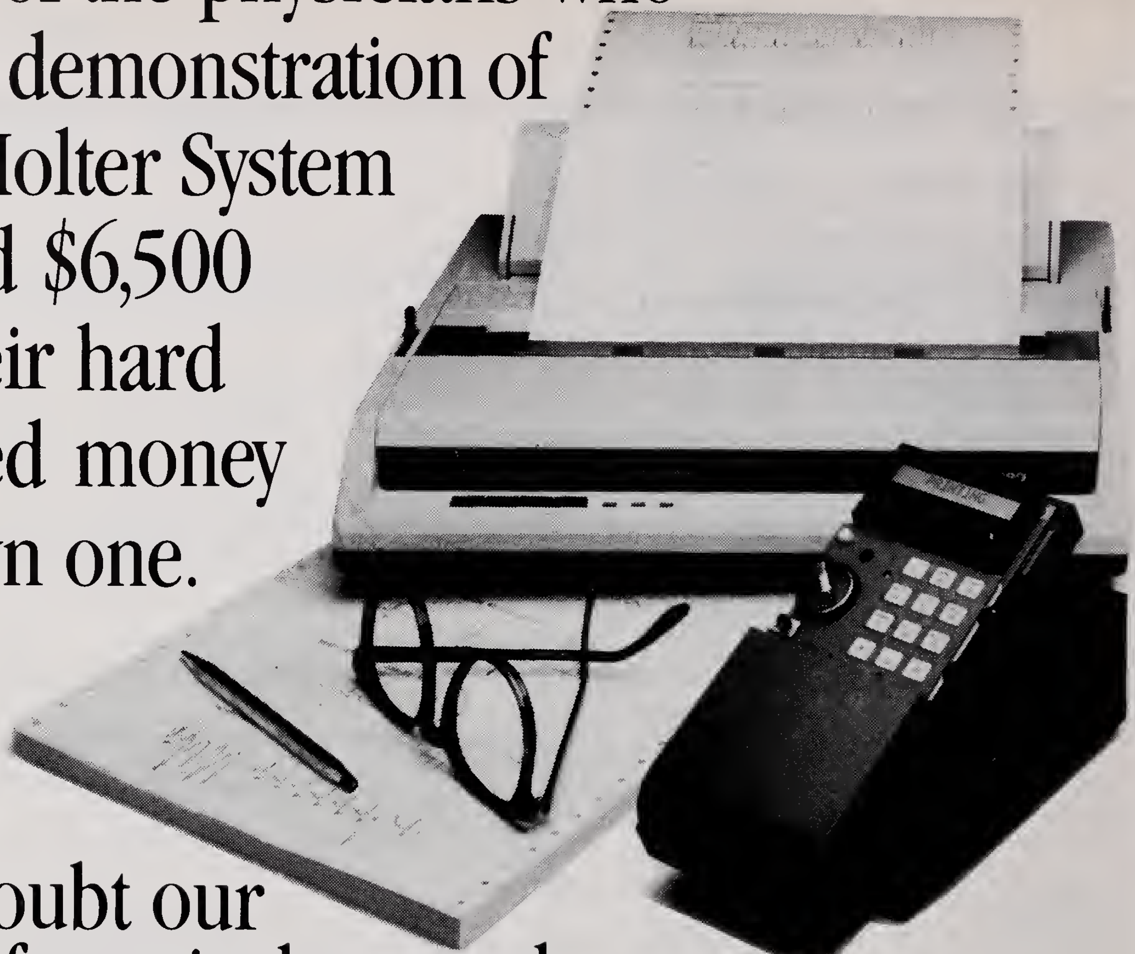

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MSMA Progress Notes

August 23 Council highlights

- The MSMA Executive Committee endorsed the nomination of Dr. J. Michael Conoyer for a term on the State Board of Healing Arts. Dr. Conoyer was nominated by his State Senator and endorsed by his State Representatives. The Committee has written a letter to Governor Ashcroft in support of Dr. Conoyer's nomination.

- Drs. Michael Perry, Columbia, and R. Don Blim, Kansas City, have been selected to participate in a 30-month Harvard University/AMA study to develop a Relative Value Scale for physician services.

- Dr. Dorothy Reister gave the District 7 report. Mr. Allen D. Smith will retire as Executive Director of the Jackson County Medical Society. A reception honoring Allen and his wife Beverly will be held during their October annual meeting. Mr. Ron Cosens will be the new Executive Director for Jackson County, effective January 1, 1987. Plans are proceeding to establish a Metropolitan Medical Society of Greater Kansas City.

- For District 8, Dr. Marvin Singleton expressed concern about blood donors directing that their donation be used for themselves or a specific individual. He asked that the MSMA endorse the current concept that "directed donations do not hold an advantage over voluntary blood donations." Dr. Singleton moved that the Council issue a simple statement that voluntary blood donations be made as they have in the past. This motion was seconded and carried.

Dr. Corry reported that the Greene County Medical Society will be moving into their new quarters around the middle of October. The new address is:

Greene County Medical Society
1200 Woodhurst, D200
Springfield, MO 65804

- Dr. T. J. Cooper reported that the American Red Cross will implement a program to identify patients who have received blood from a prior donor who subsequently has a positive antibody test for the AIDS virus. The decision to inform the patient that he has received this contaminated blood rests with the physician. Patients have the option to refuse a blood test for the virus antibody.

- The MSMA Council referred the following resolutions to the Commission on Medical Economics for study and recommendation. The Commission met July 12 and addressed these resolutions.

Resolution #5 (A-86) — **"Insurance Right to Know"** After much consideration, the Commission supports disclosure with respect to contract benefit. The Commission recommends this Resolution be implemented.

Resolution #15 (A-86) — **"Division of Insurance Regulation of Self-Insured Programs"** On motion, duly seconded, it was recommended to the Council this resolution not be accepted.

Resolution #18 (A-86) — **"Self-Insured Health Insurance Programs"** The Commission recommended that this resolution be referred back to the MSMA Council for its consideration.

Resolution #19 (A-86) — **"Tax Exempt Status of Non-Profit Hospitals"** The Commission recommended that this item be referred to the MSMA Legislative Committee.

Resolution #27 (A-86) — **"Due Process for Expropriated Earned Income"** The Commission recommended that this be referred to MSMA Council to be rewritten and submitted at a later date.

- The Commission on Medical-Legal Affairs held its meeting on June 28. The following resolutions from the 1986 MSMA House of Delegates were referred to this Commission. Here are the Commission's recommendations:

Resolution #22 (A-86) — **"Tort Reform: Loser Pays 2/3 of Winner's Legal Expenses"** After much discussion, the Commission recommends that this resolution not be implemented.

Resolution #23 (A-86) — **"Plaintiffs Contributory Negligence in Tort Lawsuits: Reduce Award by % Negligent"** The Commission feels that the intent of this resolution is already Missouri law.

Resolution #25 (A-86) — **"Recognition of Contributory Negligence in OB Malpractice Lawsuits"** The Commission feels that most of this resolution is an unrealistic approach at this time. It is recommended that the Legislative Committee consider the provision concerning the patient's failure to obtain prenatal care. After study, perhaps the Legislative Committee could draft legislations for this portion.

Resolution #26 (A-86) — **"Prohibit Malpractice Insurance from Being a Requirement for Hospital Staff Privileges"** Several points were discussed and the Commission recommends that the Executive Committee of the Association study all of this information quite closely from now until the next meeting of the House of Delegates.

Resolution #28 (A-86) — **"Malpractice Expert Witnesses"** The Commission noted that Chapter X, Section 2 of the MSMA Bylaws states "In the future, any physician who testifies as a medical expert witness or who interferes with the proper administration of justice by misrepresenting his qualifications or giving false or misleading testimony will be subject to expulsion, censorship, or reprimand after due process from the Missouri State Medical Association." The Commission believes these bylaws fulfill the intent of this resolution.

Resolution #29 (A-86) — **"Malpractice Statute of Limitations"** The Commission feels that the present Statute of Limitations is adequate at this time.

- The Commission on Public Affairs met July 26 in Columbia. They made the following recommendations:

Recommendation #1 — Non-physicians from appropriate organizations should be invited to add their input in the development and implementation of MSMA public relations and informational efforts.

Recommendation #2 — Two brochures should be produced. One should outline and discuss the patient's rights under Medicare. The second should be a guide for shopping for so-called Medicare supplementary insurance.

Recommendation #3 — The following resolution should be adopted to fulfill the objectives of Resolution #12 (A-86): "Resolved, that the Missouri State Medical Association continue its support of the dignity of the individual, the importance of human rights and the sanctity of human life, and its opposition to any discrimination based on an individual's ethnic origin, religious or political beliefs and any other such reprehensible policies."

Recommendation #4 — MSMA's public relations materials and information, including that from the AMA, should be publicized periodically in Missouri Medicine, as a reminder of their availability.

Recommendation #5 — A "How to Talk to the Media" course should be held at the next MSMA Annual Convention.

- Dr. Singleton reported that approximately 90% of the candidates supported in the primary election by MMPAC were elected.

- The next MSMA Council meeting will be held December 12-13 at the Ramada Inn in Jefferson City. ■

MSMA sponsors workshops

"How to Improve Third Party Reimbursement and Coding" is a workshop offered by MSMA at the following locations:

- November 4 — Hyatt Regency, Kansas City
- November 5 — University Plaza Hotel, Springfield
- November 6 — Airport Marriott, St. Louis

Call MSMA at 314/636-5151 for more information or write:

MSMA
P.O. Box 1028
Jefferson City, MO 65102 ■

Send your Citizenship Award nominations

MSMA is seeking nominations for the annual MSMA Citizenship and Community Service Award. This will be presented at the 1987 Annual Convention, April 2-5 at Tan-Tar-A in Osage Beach.

The award is designed to honor a civic-minded physician who has contributed significantly to the betterment of his or her community.

Nominations for the award should include a curriculum vitae and a one- or two-page statement of the nominee's qualifications for the award.

Nominations must be received by January 10, 1987. Send them to MSMA Headquarters, P.O. Box 1028, Jefferson City, MO 65102. ■

Resolutions sought for '87

Deadline for submission of resolutions for introduction before the 1987 Annual Convention is February 13, 1987.

MSMA members, component medical societies and medical students may introduce resolutions. Resolutions received by the deadline will appear in the convention delegates' handbooks.

Any resolution submitted after the deadline must be made available to the House of Delegates 24 hours before the session at which it is to be introduced.

The House must approve the introduction of late resolutions submitted for the second and third sessions at the Convention.

Introduction of a resolution at the second session requires a two-thirds majority approval of the House. Introduction at the final session requires unanimous approval in order to be presented.

The individual or society introducing a resolution after the February deadline is responsible for supplying enough copies of the document for all convention delegates. ■

New professional corporations law

Effective August 13, 1986 the professional corporations (P.C.) law in Missouri became governed by House Bill No. 1230 (H.B. 1230). Here is a brief overview of the new P.C. statute. Any physician presently incorporated or planning to do so should contact legal counsel to determine the new statute's effect on their P.C.

- Under H.B. 1230, a P.C. can be formed by one or more individuals licensed in Missouri to practice one of 11 enumerated professional services. A P.C. may offer the services of more than one profession. Two or more persons practicing different professions may incorporate provided their respective licensing authorities permit this.Therefore, a psychologist and a physician could form a P.C.
- Except for the secretary, all officers and directors must be "qualified persons," someone who is capable of legally holding shares of stock issued by the P.C. These individuals must also be licensed professionally in the U.S. to practice the service permitted in the articles of incorporation of the P.C. Other Missouri P.C.s as well as foreign P.C.s (those P.C.s organized in another state) may also hold shares in a Missouri P.C.
- Stock ownership restrictions will be reviewed when an existing shareholder dies or if a shareholder loses board certification.
- Should an "unqualified person" acquire shares, these may be sold or otherwise transferred to a person who is eligible to hold them under the Act. If an "unqualified person" does not transfer the shares, the P.C. must repurchase them.
- P.C.s may merge or consolidate with other corporations. The resulting corporation may operate under the P.C. statute only if it meets all the provisions of H.B. 1230.
- In general, transactions involving shares of stock in a Missouri P.C. are not governed by state securities law.
- Missouri P.C.s may engage in business practices allowed by the Missouri General Business Corporation Law, Chapter 351 R.S.Mo, provided the activity is allowed in the articles of incorporation.
- The name of a Missouri P.C. must include either the words "professional corporation" or the abbreviation "P.C." Existing P.C.s needing to modify their names to comply with the Act will have the $20 fee waived if the name change is done before August 13, 1987.
- Any person involved in conduct constituting malpractice is personally liable for any damages caused. The P.C. is liable for acts of its employees committed in the scope and course of employment. However, no shareholder will be liable for employee malpractice unless the shareholder participated with the employee or was negligent in appointing or supervising the employee. ■

Medicare fee profile available

If you have not already done so, now is the time to write for your new Medicare fee profile. To receive all the information you want, your letter should follow this basic format:

My provider number is XXXXX. Please send me copies of my customer fee profile and the prevailing fee profile for (your specialty) practice in (your location).

Write to:

Linda Boncek
P.O. Box 505
St. Louis, MO 63166

or

Medicare Provider
File Analyst
P.O. Box 419169
Kansas City, MO 64141-6169

Medicare charges, deductibles to increase

Starting January 1, 1987, Medicare patients will have to pay $572 for their first day's stay in the hospital. This is $80 or 16% more than the $492 they now are charged when they enter a hospital.

This information was published in the September 15 *Federal Register.*

For hospital stays lasting 61 days or longer, the 30 million elderly or disabled Americans covered by the federal insurance will face higher charges next year. The co-insurance amount will increase from $123 to $143 a day for stays of 61 to 90 days. Persons hospitalized even longer will pay $286 a day, up from $246, each time they use up one of their 60 lifetime reserve days.

Medicare pays the full bill for days two through 60 in the hospital, and it also pays for 20 days in a skilled nursing facility.

For longer stays in nursing homes, patients will pay $71.50 daily, up from $61.50 for days 21 through 100 starting January 1.

There was no word from the Health Care Financing Administration on how much the Part B premiums would rise January 1.

The Health Care Financing Administration said the increased charges will cost consumers $800 million next year. It said 7.2 million Medicare patients were expected to have 7.8 million hospital stays, using 2.8 million co-insurance days, 1.1 million lifetime reserve days and 4.9 million skilled nursing facility co-insurance days next year. ■

PRO elects officers

The Missouri Patient Care Review Foundation, Missouri's peer review organization (PRO), elected the following slate of officers at its annual Board of Directors meeting: Ken Rall, M.D., of Columbia, chairman; Fred Peterson, M.D., of St. Louis, vice chairman; Jerry Thomas, D.O., of Rolla, secretary; and John Hart, D.O., of Jefferson City, treasurer. ■

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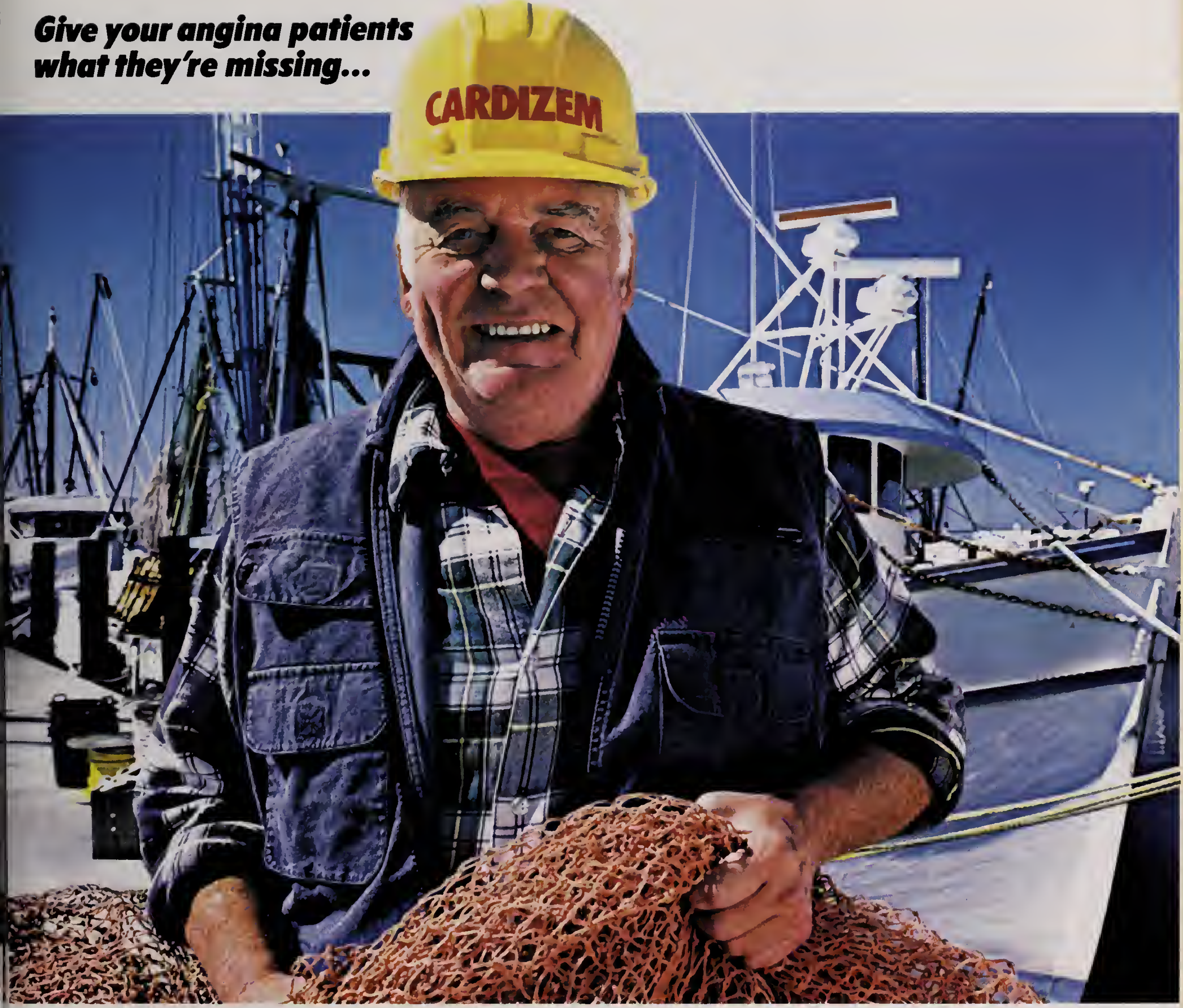

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***See Warnings and Precautions.**

Please see brief summary of prescribing information on the next page.

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Brief Summary
Professional Use Information

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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase*
Dermatologic.	*Petechiae, pruritus, photosensitivity, urticaria.*
Other.	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. Issued 7/86

See complete Professional Use Information before prescribing.

References: 1. *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347.* **2.** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* **3.** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* **4.** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* **5.** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.*

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Letters to the Editor

Gateway Vascular Society

Dear Dr. Burkey:

Several metropolitan specialty organizations were listed in the August issue of MISSOURI MEDICINE. Please inform your readers that the Gateway Vascular Society meets four times a year. The president is Dr. Falls B. Hershey, 621 S. New Ballas Road, St. Louis, MO 63141. His phone number is 314/567-6666.

This is a regional vascular society formed approximately three years ago. This society is well-known throughout the greater metropolitan St. Louis area as well as eastern Missouri. One of our councilors is from Columbia.

Interested physicians should contact Dr. Hershey for more information.

Very truly yours,
Arthur I. Auer, M.D.
St. Louis

BASH based in St. Louis

Dear Dr. Burkey:

Please be advised that one of Missouri's volunteer health agencies should be shared with your readers. The Bulimia Anorexia Self-Help (BASH), Inc. is one of the largest self-help organizations in the country listed with the American Psychiatric Association.
Inquiries should be directed to:

Felix E. F. Larocca,M.D.
Medical Director
BASH, Inc.
6125 Clayton Ave.
Suite 215
St. Louis, MO 63139

Our 24-hour hotline for Missouri is 314/768-3838. Outside Missouri, our toll-free number is 1-800/762-3334.

Thank you for publishing this information.

Yours truly,
Felix E. F. Larocca
St. Louis

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

"In the 1980s, meetings are held everywhere, at all times of the year. For some strange reason they are scheduled more often in Honolulu or Steamboat Springs than in Detroit or Indianapolis."

Medical Meetings

The practice of medicine has been one of constant change, as we all know, with progress on all fronts. There is one facet of a physician's experience, however, which somehow hasn't changed all that much — the grand learning event known as the Medical Meeting — (convention — seminar — course, or whatever). In medical school the existence of such proceedings was scarcely admitted to the students; that would be an implication that the institution wasn't teaching the students all they needed to know. At worst, the graduate might return to the mother school for carefully structured post-graduate training. But medical meetings elsewhere were never mentioned.

Out in the real world, however, they exist. By their various promotions they try to sound different, but in many ways they are all the same. As one approaches the meeting area, there is a gauntlet of booths manned by detail men with smiling faces and free pens/flashlights/emery boards all for the asking. Past them are the darkened meeting rooms with projectors in various degrees of repair, folding chairs jammed together, and a podium to one side of the all important picture screen. The choice seats in the back of the room are usually taken first, while people trip over electric cords getting to the less desirable pews up front.

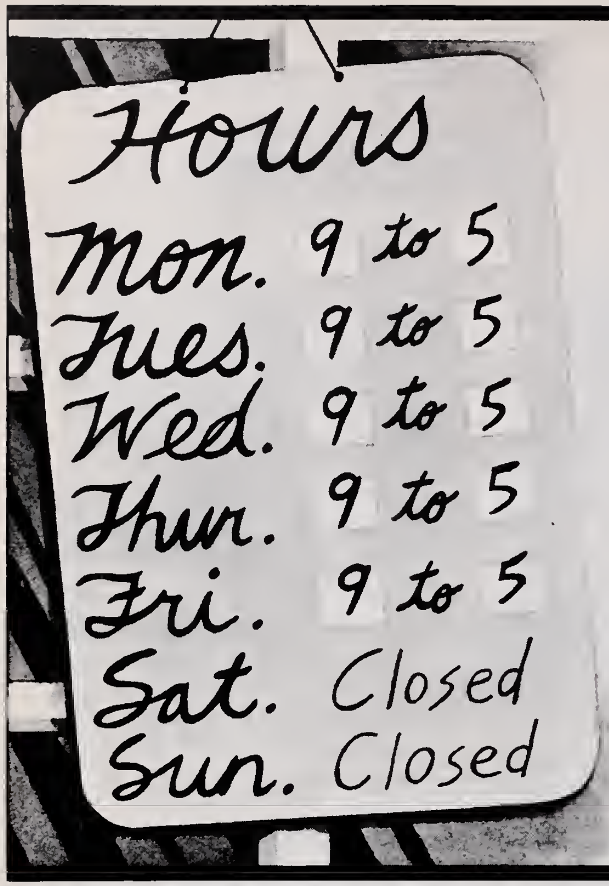
Audience response is predictable. There are those in attendance who dutifully take down every word the speaker utters. Others stare vacantly as if contemplating more enjoyable activities scheduled for later in the evening. Up front on the screen the presentations go on, from the latest research from the medical centers, complete with charts and graphs ad infinitum, to venerable speeches accompanied by slides yellowed with age. Several aphorisms may be cited:

1. The more interesting the title of the paper to be presented, the duller the presentation.
2. If there are two talks in a day's program you really want to hear they will be either:
   a. The first and last speeches of the day, or
   b. Given at the same time in different rooms.
3. If a paper from an ivory tower institution is likely to attract notice from the press, the physician in charge will present it. If not, an assistant will handle the chore.

The medical meeting format is apparently a universal phenomenon. A number of years ago we attended a Hungarian medical convention. Same free pens, same trouble getting the projectors to work. One minor variation on the theme: One of the course organizers told us they had trouble getting the doctors who signed in to stay for the speeches — they tended to go off to the mud baths.

In the 1980s, meetings are held everywhere, at all times of the year. For some strange reason they are scheduled more often in Honolulu or Steamboat Springs than in Detroit or Indianapolis. A recent AMA meeting calendar listed a

Continued on page 690



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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

"With competition intensifying as government, business and other payors try to reduce costs, our priority is to preserve quality health care."

Health care quality needs our attention

With the recent awarding of the Missouri PRO contract to the MSMA-sponsored Missouri Patient Care Review Foundation, Missouri physicians will continue to have input into the review process. However, our educational days are over and we must now focus on quality of care.

Report A of the Council on Medical Service which was presented and adopted by the 1986 House of Delegates addresses this issue.

With competition intensifying as government, business, and other payors try to reduce costs, our priority is to preserve quality health care. There will be pressure for changes in delivery and financing systems. Expect public debate on how to define and measure quality. Quality concerns include contracting with provider groups, evaluating advertisements of the "highest quality health care available," incorporating a measure of quality in reimbursing hospitals, and evaluating treatment and delivery systems.

The Council believes the challenge is threefold — 1) to expand public understanding of the term "high quality medical care," and the current mechanisms to assess and assure quality; 2) to develop guidelines for assessing/measuring the quality of care; 3) to encourage wide and systemic use of quality assessment findings to improve the care delivered and thus increase overall access to high quality care.

High quality care has been defined as care "which consistently contributes to improvement or maintenance of the quality and/or duration of life." Health professionals combine their own skill and compassion with technology for the patient's benefit to obtain favorable patient outcome.

However, the Council believes there are many elements which identify high quality care in addition to favorable patient outcome. These elements are:

1) Produce the maximum possible improvement in the patient's physiologic status, physical function, emotional and intellectual performance and comfort at the earliest time possible consistent with the best interests of the patient;

2) Emphasize the promotion of health, the prevention of disease or disability, and the early detection and treatment of such conditions;

3) Be provided in a timely manner, without either undue delay in initiation of care, inappropriate curtailment or discontinuity, or unnecessary prolongation of such care;

4) Seek to achieve the informed cooperation and participation of the patient in the care process and in decisions concerning that process;

5) Be based on accepted principles of medical science and the proficient use of appropriate technological and professional resources;

6) Be provided with sensitivity to the stress and anxiety that illness can generate, and with concern for the patient's overall welfare.

7) Make efficient use of the technology and other health system resources needed to achieve the desired treatment goal;

8) Be sufficiently documented

Continued on page 690

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by Carol Sparkman
MSMA Auxiliary
AMA-ERF Chairman

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Continued on page 690

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ZANTAC® 150 h.s.

ranitidine HCl/Glaxo 150 mg tablets

EFFECTIVE MAINTENANCE THERAPY

for healed duodenal ulcer patients

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In two randomized, double-blind, and well-controlled clinical trials, ZANTAC 150 mg h.s. significantly superior to cimetidine 400 mg h.s. for maintenance therapy in healed duodenal ulcers.

Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*p=0.02
†p=0.01
‡$p \leq 0.004$
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 150 mg has no significant drug interactions with theophylline, phenytoin, or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications that decrease gastric acidity are administered.

Zantac® 150
ranitidine HCl/Glaxo *150 mg tablets*

One tablet at bedtime
for maintenance

See next page for references and
Brief Summary of Product Information.

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Zantac® 150

ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime for maintenance therapy in healed duodenal ulcer patients

References:

1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer *J Clin Gastroenterol* 1985;7(6):482-487.
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3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

See complete product information before prescribing. The following is a brief summary.

INDICATIONS AND USAGE: ZANTAC® is indicated in:
1 Short-term treatment of **active duodenal ulcer** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg. Zollinger-Ellison syndrome and systemic mastocytosis).
4 Short-term treatment of **active, benign gastric ulcer** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD)**. Symptomatic relief commonly occurs within one or two weeks after starting therapy. Therapy for longer than six weeks has not been studied.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1 Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy 2 Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function. Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver

Laboratory Tests: False-positive tests for urine protein with Multistix* may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P-450 in vitro, recommended doses of the drug do not inhibit the action of the cytochrome P-450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2,000 mg/kg/day

Ranitidine was not mutagenic in standard bacterial tests (*Salmonella*, *E coli*) for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay, a single oral dose of 1,000 mg/kg to male rats was without effect on the outcome of two matings per week for the next nine weeks.

Pregnancy: ***Teratogenic Effects: Pregnancy Category B:*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers: ZANTAC is secreted in human milk Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65 to 82 years of age) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups

ADVERSE REACTIONS: The following have been reported as events in clinical trials or in the routine management of patients treated with oral ZANTAC®. The relationship to ZANTAC therapy has been unclear in many cases. Headache, sometimes severe, seems to be related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnolence, insomnia, and vertigo. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, and premature ventricular beats.

Gastrointestinal. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid IV for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia

Endocrine: Controlled studies in animals and man have shown no stimulation of any pituitary hormone by ZANTAC and no antiandrogenic activity, and cimetidine-induced gynecomastia and impotence in hypersecretory patients have resolved when ZANTAC has been substituted. However, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Integumental: Rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC® 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated Doses up to 6 g/day have been employed in patients with severe disease

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day

See full prescribing information for dosage adjustment for patients with impaired renal function.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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Desmoplastic Fibroma of Bone

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Ellensburg, Washington

Helmut Haibach, M.D., and Robert W. Gaines, M.D.,
Columbia, Missouri

A rare, benign entity, desmoplastic fibroma of bone is easily mistaken for fibrosarcoma. The important differences between the conditions are discussed, and a case is described.

Desmoplastic fibroma of bone is a benign neoplasm that is easily confused with the low grade variant of fibrosarcoma because of its rarity and locally aggressive nature. However, it is clearly distinct because of its lack of metastatic spread.[1-3] We report a case of desmoplastic fibroma of the tibia to call attention to these important features. Further, this case is, to our knowledge, the first recorded with extension into the proximal epiphysial plate of the tibia.

Case Report

A 27-year-old construction worker was referred for a large, osteolytic lesion in the proximal third of the right tibia. He had been well until three months previously after which time he became unable to work because of a dull knee ache. The pain increased with weight bearing and decreased with rest and analgesics. Physical examination was normal except for circumferential tenderness below the right knee. Laboratory results were unremarkable except for minimally elevated serum alkaline phosphatase activity.

Radiographs (Fig 1) revealed a 13x7x6 cm geographic lesion in the proximal end of the right tibia, centered in the metaphysis and extending to and through the proximal epiphysis and into the diaphysis. The margins were lobulated but well defined. A thin rim of sclerotic bone surrounded the lesion. There was lateral thinning of the cortical bone. A fracture was seen near the upper margin of the lesion. Computed tomography (Fig 2) confirmed marked thinning of cortical bone with a 3x3 cm defect, but gave no evidence of soft tissue involvement. Arteriograms were negative without blushes or encasement of vessels. Scintigraphy with 99mTc-phosphonate demonstrated increased activity in the area of radiographic abnormality, but no other lesions in the skeleton.

Biopsy specimens revealed a desmoplastic fibroma. There were ample hypocellular bands and sheets of fibrous tissue with slender fibrocytes. The collagen formed dense bundles in some areas and rather loose patterns in others. No atypia was seen. Mitoses were extremely rare. Surgery was delayed because of posterior tibial vein thrombosis and the need for anticoagulation therapy. The neoplasm was excised, and cadaver bone was grafted into the defect. The surgical specimen measured 11x5x4 cm; white bands and punctate hemorrhages were seen. The histopathologic findings (Fig 3) were the same. In addition, fibroblastic activity and foci of reactive bone formation were seen at one margin of the lesion. No atypia or storiform patterns were noted. The postoperative recovery was uneventful, and the patient was followed for three years without evidence of new tumor growth.

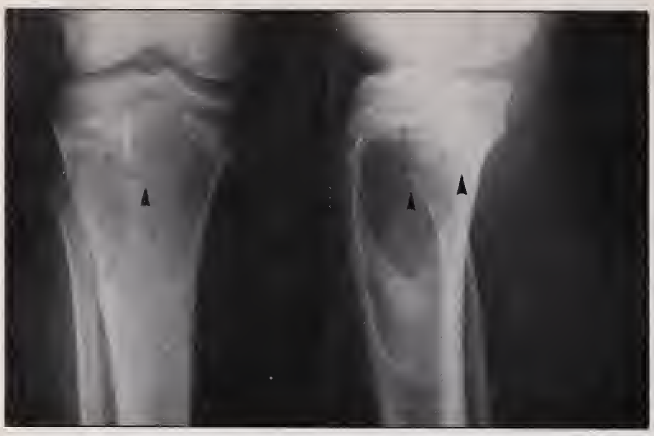

Fig 1 Anterior and lateral views of the right tibia. Desmoplastic fibroma demonstrating extension into the epiphysial plate. Note multicystic appearance and destruction of cortical bone. Arrows indicate fracture line.

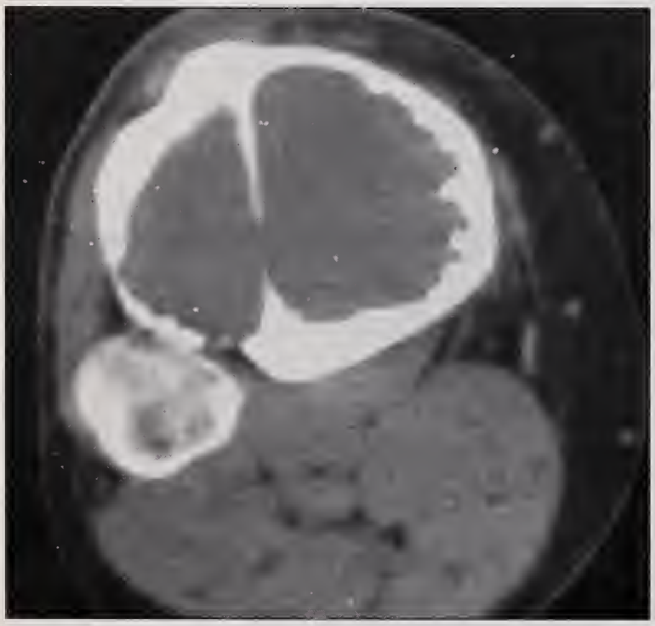

Fig 2 Computed tomogram (view from below) of the lesion shown in Fig 1. Note defects in cortical bone and lack of soft tissue extension.

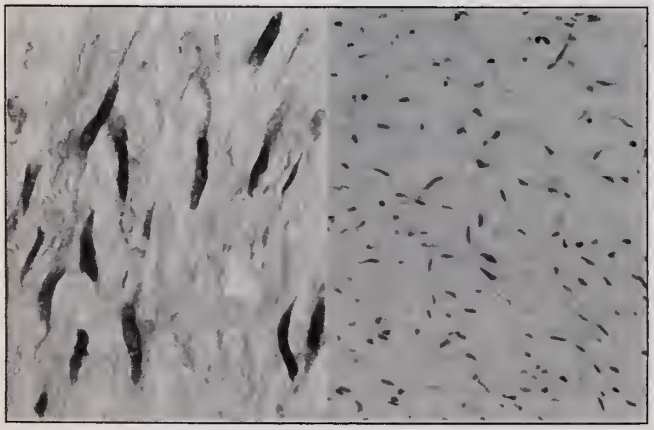

Fig 3 Histopathology of desmoplastic fibroma. Note hypocellularity, collagen bands and slender spindled nuclei of the fibrocytes.

Comment

Desmoplastic fibroma of bone is a rare neoplasm. Prior to 1976, only 50 such tumors had been reported.[2,4] Since that time, more than 60 tumors have been described. By 1978, Dahlin[2] had found only four examples among approximately 6,000 primary bone tumors studied at the Mayo Clinic. The neoplasm was first established as a definite entity by Jaffe in 1958.[5] The first case that met Jaffe's criteria was described by Cappel[6] as early as 1935. At the time, it had been designated as endosteal fibroma. The sum of the clinical, radiographic, and pathologic features clearly distinguishes desmoplastic fibroma of bone from the low grade fibrosarcoma at one end of the spectrum of fibro-osseous lesions, and from various benign lesions such as nonossifying fibroma and chondromyxoid fibroma at the other.[1,2,4]

Among the clinical features of this neoplasm, pain is the predominant presenting complaint. Swelling is noted less often. In most of the reported cases, at the time of diagnosis the lesion had attained considerable size, indicating slowly progressive growth. A history of trauma was given in a minority of cases. Tomography and computed axial tomography sometimes demonstrated a fracture. Both sexes were affected with equal frequency. The age of the patients at diagnosis has ranged from 20 months to 71 years; nine of 10 cases were younger than 40 years. The skeletal distribution of the tumors is shown in Fig 4. The jaws were most often affected; in approximately half the cases, the long bones were involved.

Radiographically, the lesion is purely osteolytic, arising centrally in the bone. The margins are easily distinguishable and often irregular. Surrounding bone shows some sclerotic changes, evident as fine dense lines. There may be much destruction and thinning of the cortical bone, suggesting a malignant process. Bony metaplasia is absent. Frequently, fine trabeculae are visible, giving the appearance of "soap bubbles." Periosteal reaction is absent. The radiographic differential diagnosis of benign lesions should include nonossifying fibroma, giant cell tumor, chondroblastoma, and monostotic fibrous dysplasia. Among malignant lesions, metastatic disease needs to be considered foremost, as well as primary bone tumors without bone formation.

Desmoplastic fibroma of the long bones are centered in the marrow space of the metaphysis. Larger lesions extend into the diaphysis. Extension into the epiphysis has been noted in two or three cases involving the head of the humerus, and in another case involving the distal epiphysis of the tibia. The present case is, to our knowledge, the first in which extension into the proximal epiphyseal plate has been recorded. Giant cell tumors of the long bones usually also arise in the metaphysis and can extend into the diaphysis and epiphysis, as well. Thus, giant cell tumors may be difficult to distinguish from desmoplastic fibroma growing into the epiphysis. Malignant bone lesions tend not to transgress the open growth lines.[7]

On pathologic examination, desmoplastic fibroma of bone consists of gray-to-white rubbery firm tissue without calcification or ossification. Trabeculation may be seen on the fresh-cut surface. Cyst formation with accumulation of clear fluid is present in the larger lesions. Pseudoencapsulation tempts the surgeon to inadequate excision. Histopathologically, the lesion resembles the various musculoskeletal fibromatoses. There are broad sheets and bands of hypocellular fibrous tissue. In some areas the collagen bundles are very dense, in others rather thin and sparse. The individual fibrocytes are uniformly slender and spindle-shaped and show no atypia. Mitotic figures are rare, if present. Metaplastic ossification and cartilage formation are not seen, but may be simulated at the borders of the lesion where surrounding bone or cartilage are engulfed by the growing neoplasm. An important differential diagnosis is fibrosarcoma, which is usually recognized by the plump appearance of the fibroblasts, atypia, high cellularity, and high mitotic counts. However, the hypocellular or low grade variant of fibrosarcoma can be exceedingly difficult to distinguish. In some cases, only prolonged follow-up of the patient can establish the final diagnosis. The periosteal desmoid shares all histologic features with desmoplastic fibroma of bone. Differentiation is only possible on the basis of the clinical and radiographic findings; periosteal desmoids are centered peripheral to the bone. A single case of desmoid fibroma arising in fibrous dysplasia of bone has been recorded.[8] Otherwise, this neoplasm is not known to be associated with other bone disease.

Electron microscopic studies have revealed that desmoplastic fibroma of bone is composed of myofibroblasts and fibroblasts.[9] Their ultrastructural details are very similar if not identical to those of other nonneoplastic lesions, such as the fibromatoses and exuberant scars. It has been suggested that endocrine, traumatic, and dysgenetic stimuli induce morphologic changes or modulations in primitive or intermediate cells, transforming them to myofibroblasts.[9]

The preferred treatment of desmoplastic fibroma of bone is excision and grafting of larger defects.[1] Recurrence of the neoplasm is noted in 20% of the cases. Thus, excision with wide margins is recommended. Metastatic spread does not occur, and this rare neoplasm of bone, therefore, is classified as benign.

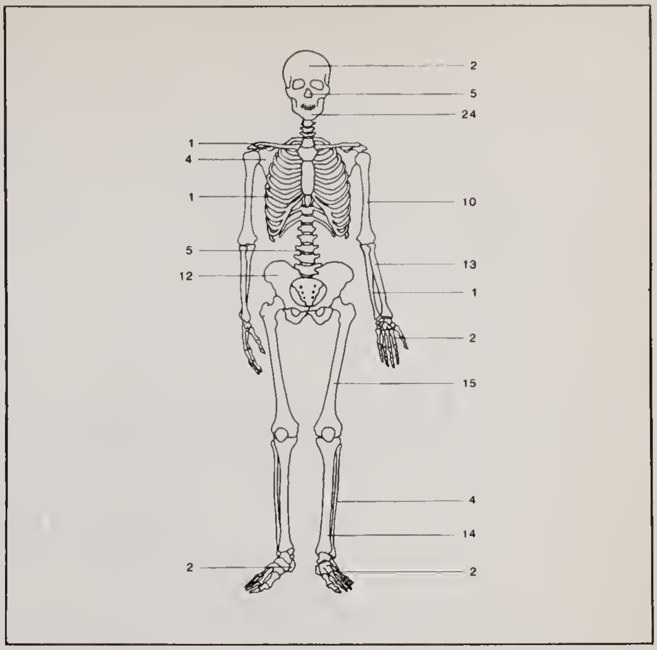

Fig 4 Skeletal distribution of 115 desmoplastic fibromas described in the literature.

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A list of case reports is available from the authors on request.

Reprints

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Congenital Radio-ulnar Synostosis

Results of Eight Cases and Review

Gregory T. Hardin and Clive Levine, M.D.
Columbia, Missouri

Congenital radio-ulnar synostosis is usually manifested with an obvious forearm deformity, such as hyperpronation. Occasionally, however, the condition is only discovered incidentally on an x-ray. Eight cases are described, including one corrected surgically.

Congenital radio-ulnar synostosis is a rare malformation of the proximal forearm that prevents pronation and supination. Fewer than 300 cases have been reported in the literature since the first anatomical description of the condition by E. Sandifort in 1793.[1] One hundred years later Morrison delineated a patient who demonstrated classical physical findings.[2]

This paper briefly describes and summarizes the data and radiologic findings on eight patients with congenital radio-ulnar synostosis evaluated at the University of Missouri-Columbia Health Sciences Center between 1958 and 1985. A review of the literature is also provided.

Patients and Methods

A computer search of patient records at the University Medical Center from the past 27 years revealed eight patients with 11 congenital radio-ulnar synostoses (Table 1). Of these patients two were female and six were male. In seven cases the diagnosis had been made between the ages of 6 months and 12 years. The remaining patient was diagnosed at age 47. Seven were detected by chance during physical examination for other reasons, and one was seen specifically because of functional difficulties related to her extremity. In no instance was there a familial predisposition to the condition. In two cases the anomaly was right-

Table I

Patient Data

Case	Sex	Age at diagnosis (yrs.)	Forearm(s) involved		*Forearm Position	Elbow Flexion Contracture(s)	Associated Congenital Anomalies	Surgical Correction	Occupation
			R	L					
1	M	11	−	+	I	+	Ventricular septal defect	−	School
2	M	11	+	−	I	+	Ventricular septal defect Phocomelia	−	School
3	M	12	−	+	II	−	None	−	School
4	M	6	+	−	I	−	Mental retardation	−	School
5	M	9	+	+	II/II	+	Cafe-au-lait spots Mental retardation Bilateral clubbed feet	−	School
6	F	½	+	+	NA	+	Microcephaly Bilateral clubbed feet Congenital dislocated hip, Mild scoliosis Digit flexion contracture	−	Infant
7	M	47	+	+	II/II	−	None	−	Laborer
8	F	6	−	+	III	−	Patent ductus arteriosus L_5-S_1 Spina bifida	+	School

*I = neutral to 25 degrees of pronation, II = 30 to 60 degrees of pronation, III = more than 60 degrees of pronation
NA = not available

sided, in three left-sided, and in three bilateral, the latter group consisting of two male and one female patient. In all of the patients, the hand was more or less fixed in pronation, ranging from neutral to 90 degrees. In six cases, pronation and supination were practically abolished, while in two mobility was considered to be approximately half the normal range. Four of the patients, including two with bilateral defects, had flexion contractures of 10°-30° in the elbow. The others had free mobility in the joint. Additionally, in four cases physical examination and radiographic studies revealed dislocated radial heads (Fig 1). Six of the eight patients were found to have additional congenital anomalies (Table 1). It is apparent from the case records that the majority of these patients functioned quite adequately despite their anomaly. Six were in school, one was a laborer, and one was too young to assess. One patient did, however, undergo surgery, which is not currently the recommended procedure of choice, but the patient, nonetheless, had a successful outcome. This case will be described in detail below.

Case Report

A 14-year-old girl with a history of patent ductus arteriosus and L_5-S_1 spina bifida was admitted to undergo surgical treatment of left-sided proximal radio-ulnar synostosis. At the time of admission she complained of inability to use her left hand for normal daily functions, especially while attending school.

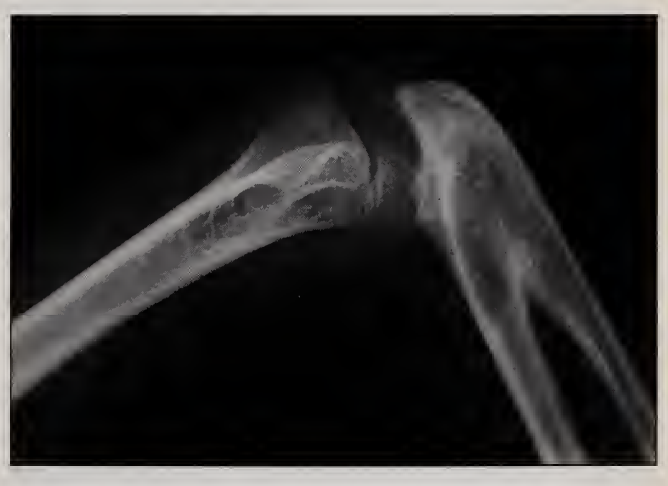

Fig 1 This demonstrates proximal radio-ulnar synostosis with marked posterior subluxation of the radial head.

Physical examination revealed a left forearm fixed in 90° pronation with no limitation of elbow joint function and normal muscle mass. The right upper extremity was completely normal. Radiographic interpretation revealed a 2½-inch, smoothly fused proximal radius and ulna. The patient subsequently underwent resection of 1¼ inches of the radial shaft distal to the synostosis through a ventral incision. This was preceded by minimal soft tissue disruption, including separation of the supinator muscle from the underlying radius. The procedure was completed with gelfoam placed between the divided bones. With the patient under anesthesia, the arm could be brought to 5° supination. Immediately postoperatively, a course of passive and active range of motion exercises was prescribed with the expectation that an intraradial pseudoarthrosis might form. On follow-up examination at eight months and again at three years postoperatively, the patient was found to have full active pronation and 40° supination of her left forearm. Radiographic interpretation confirmed the formation of a pseudoarthrosis at the previous operative site.

Discussion

Etiology and Embryology

While the cause of congenital radio-ulnar synostosis is unknown, evidence supports a genetic basis.[3] Further support for this theory includes the association of radio-ulnar synostosis with other congenital anomalies and syndromes in up to two-thirds of the cases.[4, 5] Developmentally, radio-ulnar synostosis is regarded as an anomaly of longitudinal bone segmentation.[6-8] At some point during the sixth week of intrauterine life, when the fetal forearm is midway between neutral and full pronation, an unknown factor stimulates the embryonic cartilage tissue between the proximal radio-ulnar joint to undergo ossification.[6, 8, 9] Normally, this cartilagenous mass would disappear, leaving a functional joint space.

Radiographic Findings

Roentgenographs characteristically reveal a smooth fusion of the proximal 2 to 6 cm of the radius and ulna, with bowing of the radial shaft, and on rare occasions distal forearm anomalies (Figs 1 and 2). Numerous authors have outlined classification schemes for radio-ulnar synostosis based upon radiographic findings.[1, 3, 5, 9] While the classifications differ widely, most authors readily agree that this entity presents radiographically as a spectrum of anatomic variation based on the timing of embryologic arrest.[1, 4, 5]

Clinical Features

Sixty percent of the patients have bilateral involvement with males affected more often than females. Functional complaints are related to the inability to perform activities requiring upper extremity dexterity.[4] Physical examination reveals variable degrees of fixed forearm pronation, elbow flexion contractures and hypermobile wrists.

Indications for Surgery

A comprehensive account outlining a format for preoperative assessment of these patients has recently been published.[1] Surgical candidates include patients with greater than 60° of fixed pronation who have marked functional deficits.[2, 4, 10, 11] Patients with fixed pronation between 15° and 60° require careful individual consideration while those with less than 15° pronation rarely go on to surgery.

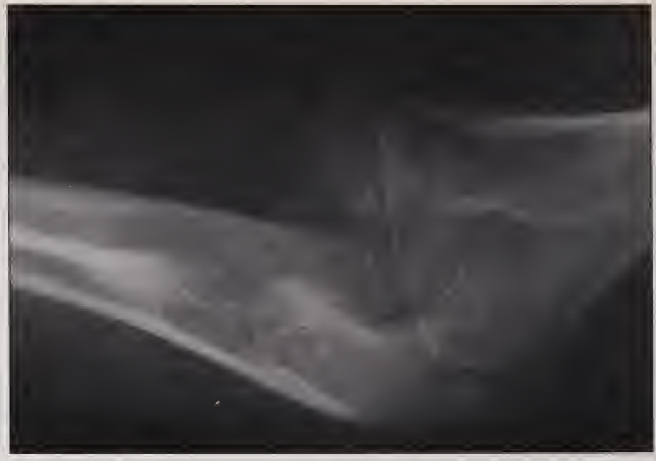

Fig 2 Congenital fusion of the proximal radius and ulna is apparent.

Treatment

Early operative attempts to separate or interpose materials between the synostosis have been extremely unsuccessful.[5, 10] The current procedure of choice involves osteotomy and subsequent derotation of the fused segment. This results in a fixed, albeit improved and more functional forearm position.[4, 11] The ideal final position for the forearm is strongly debated.[4, 10, 11] Complications have been reported in 8%-36% of surgically treated patients. However, in all such cases these patients underwent procedures which differ from the one described above.

Conclusion

Congenital radio-ulnar synostosis is an idiopathic, rare malformation of longitudinal bone segmentation, most often incidentally diagnosed, and only rarely requiring surgical correction. Patients present with varying degrees of fixed forearm pronation deformities, usually associated with elbow flexion contractures. Nearly 50% of patients have bilateral involvement and in up to two-thirds of the cases, other congenital anomalies are present. Radiographically, this entity presents as a smooth fusion of the proximal radius and ulna. Most patients appear to function quite well despite their deformity. However, patients who have fixed hyperpronation exceeding 60° with functional and cosmetic complaints, or bilateral involvement, benefit greatly from surgical correction. The procedure receiving the most support and providing the greatest benefit with the least morbidity is that of osteotomy and subsequent derotation of the involved segment. The ideal final forearm position is strongly debated and requires careful individual consideration.

Continued on page 690

Intramural Diverticulosis Simulating Aphthous Ulceration of the Colon

James K. Fisher, M.D.
Kansas City, Missouri

A method for differentiating colonic intramural diverticula from aphthous ulceration on x-ray examination is presented. By observation of the shadows surrounding the radiographic defect, the conditions may be distinguished one from the other.

Intramural diverticula are minute antimesenteric diverticula-like structures occurring in the wall of the colon.[1, 2] On double contrast radiographic examination of the colon, these diverticula can be seen as very small collections of contrast scattered in a colon affected by this process. These diverticula are usually associated with the larger lateral antimesenteric diverticula which are seen in diverticulosis. At first glance these tiny diverticula appear as depressed lesions or ulcerations when viewed en face, similar to the aphthous ulceration that occurs with Crohn's disease. When seen in profile, these minute diverticula are easily recognized as a serrated colonic edge secondary to their slight protrusion from the lumen. However, when these structures are seen en face *without* being seen in profile, these shadows can be confused with ulceration.

At our hospital, we utilize the double contrast technique regularly in examining colons for inflammatory bowel disease and polypoid lesions. The images produced by these small intramural diverticula have, at times, caused confusion among physicians at our hospital and other hospitals when trying to distinguish these diverticula from ulceration. Close scrutiny of the appearance of these structures shows a specific-appearing adjacent shadow that can be used to differentiate these diverticula from ulceration with a surrounding halo of edema.

Discussion

Aphthous ulcers of the colon have a characteristic radiologic appearance on double contrast barium enema examinations (Fig 1). A central collection of barium is seen, compatible with a diagnosis of su-

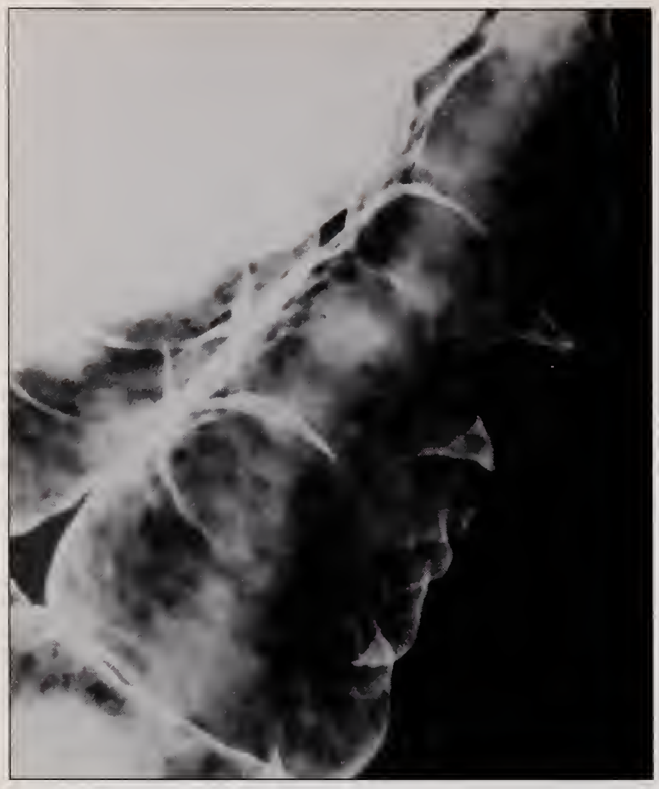

Fig 1A

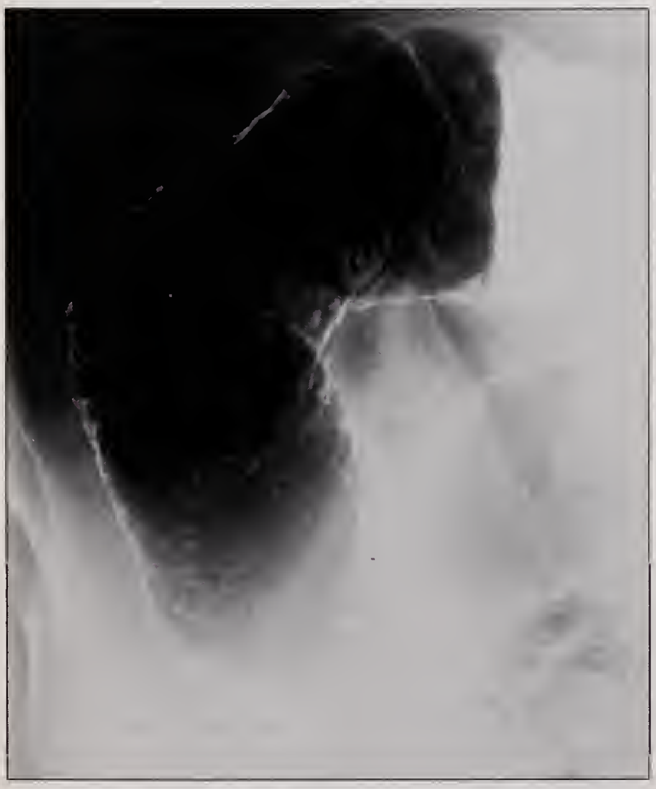

Fig 1B

Fig 1 Double contrast examination of the colon showing diffuse aphthous ulceration in different patients with Crohn's disease. Note the surrounding lucent halo.

perficial ulceration. There is a surrounding radiolucent halo secondary to lymphoid aggregation and inflammatory change. This small abnormality is most frequently seen in Crohn's disease, especially as an early finding, but can be seen in other conditions such as amebic colitis, in Bechet's syndrome, and in *Yersinia* enterocolitis.

Similarly, lateral colonic diverticula have their own characteristic appearance (Fig 2). The usual diverticulum appears as a small, sac-like collection of barium easily recognized as a protrusion, when seen in profile, extending from the colonic lumen. Its rounded apex and balloon-shaped structure is usually broader than its neck. When viewed en face, these structures have several appearances. A diverticulum filled with barium on the dependent surface presents as an opaque round object with a sharp margin. A diverticulum filled with air on the non-dependent surface appears as a ring shadow. This ring has a well-defined outer edge and a fading or less distinct inner edge produced by the barium coating the inner surface of the diverticulum and its neck. These diverticula are composed of mucosa and muscularis mucosa protruding through the outer walls of the bowel. These occur along the antimesenteric aspect of the bowel. Because they do not contain all layers of the bowel wall, they are also referred to as false or pulsion diverticula. These protrusions occur through defects in the circular muscle at the sites where small vessels penetrate.

Associated with the more common lateral colonic

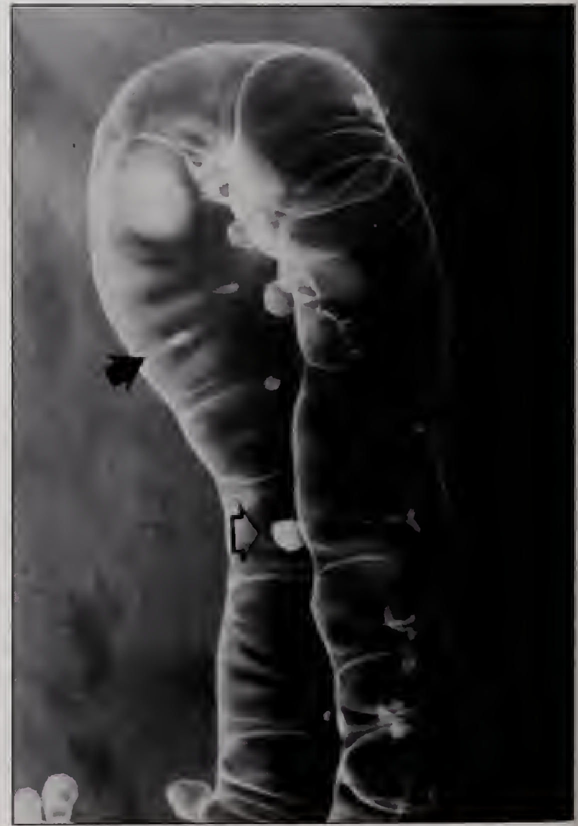

Fig 2A

diverticula are smaller diverticula occurring along the antimesenteric intertaenial area of the bowel. These have been called intramural, ridge or saccular-type diverticula. Marcus suggested a sequence of events in the development of this bowel wall abnormality (Fig 3). Transverse linear fibrous striae separate the bowel wall circular muscle into coarse bundles showing relative hypertrophy and atrophy of fasciculi. Gaps in the circular muscle layer are present. The mucosa may dip beyond the submucosa at the site of the fibrous gap but does not extend beyond the serosa. This creates the so-called intramural diverticulum. Ridge diverticula are a further stage in the development of diverticulosis on the antimesenteric intertaenia area. The mucosa extends beyond the circular muscle into the serosal coat. These appear similar to intramural diverticula but are slightly larger. Larger saccular diverticula can also develop. These are usually smaller than the more common lateral diverticula.

In profile, these tiny intramural diverticula cause the colonic lumen edge to appear spiky or irregular in outline, and easily recognizable. They are usually on only one side of the bowel wall. The spikes are pointed or slightly rounded at the apex. They are short with a wide base, but this feature depends upon the amount of luminal distention.

No report of the en face appearance of these intramural diverticula has been found in the literature. When viewing these structures en face, it has been observed that the small collections of barium pooling in the intramural diverticula are bordered by two parallel radiolucent bands on either side of the contrast. These bands appear to correspond to the muscular ridges described earlier, occurring on either side of the diverticulum. This characteristic can be used to differentiate these small diverticula from ulceration, which has a round or surrounding radiolucent halo.

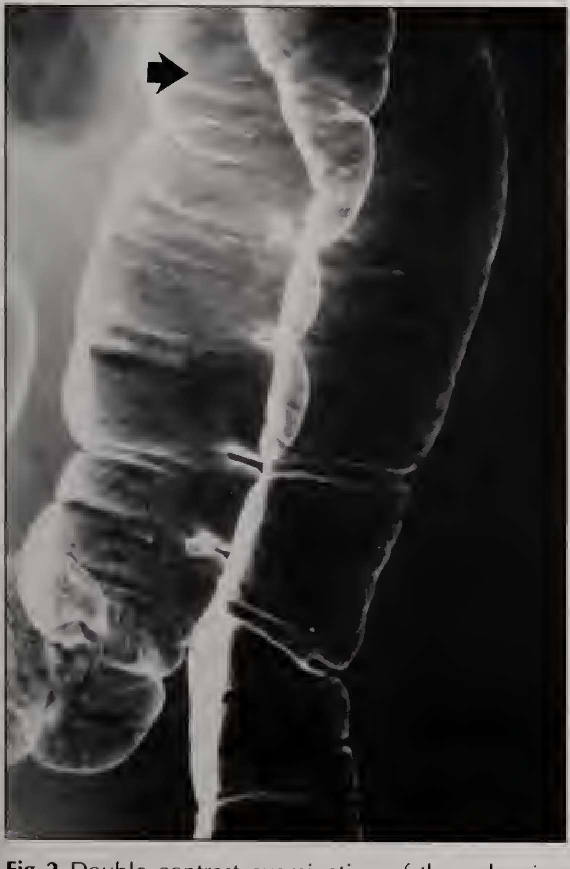

Fig 2B

Fig 2 Double contrast examination of the colon in different patients with diverticulosis showing both lateral (open arrow) and intramural (solid arrow) diverticula. Note the parallel lucent bands on either side of the intramural diverticula.

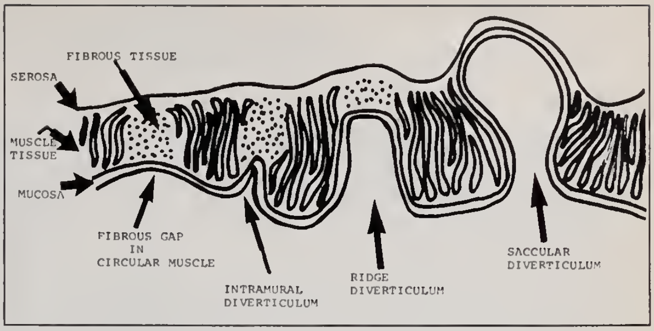

Fig 3 Summation drawing of two longitudinal microscopic sections of the antimesenteric intertaenial area demonstrating the sequential appearance of intramural diverticulosis (Marcus' article).

Intramural-type diverticula occur in 20% of patients with diverticulosis and are considered a minor change of diverticular disease. They were once considered a precursor to diverticulosis. When these minute diverticula are seen in association with other lateral diverticula, their appearance can be assumed to be due to diverticular abnormality rather than ulceration. However, there is no reason that ulceration cannot coexist with diverticulosis of any type. Therefore, a distinguishing feature must be found. This is especially important when only the en face appearance is present, without a typical profile appearance apparent in the multiple-view examination. The parallel lucency on either side of intramural diverticula distinguishes them readily from ulceration and can avoid any confusion in deciding whether the defect is an ulceration or diverticulum.

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Congenital Radio-ulnar Synostosis

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Editor's Desk

Continued from page 675

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President's Page

Continued from page 677

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Continued from page 690

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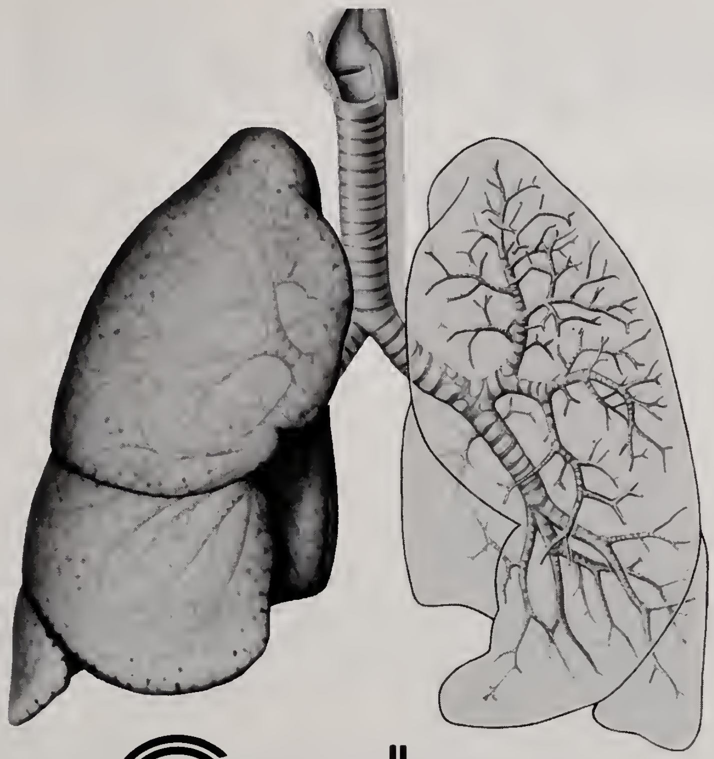

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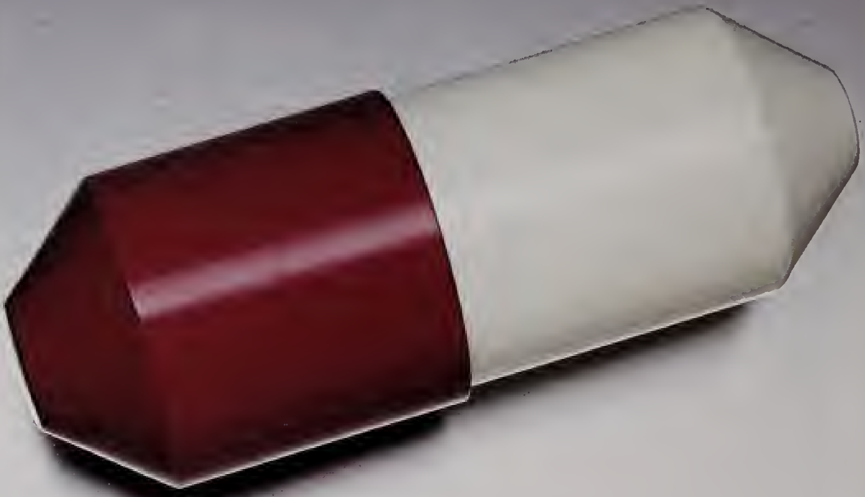

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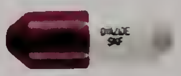

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New Members

■ **Donald K. Allcorn, M.D.,** 302 Highway 65 North, Lincoln 65338, has become a member of the Pettis County Medical Society. Dr. Allcorn received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the University of Utah. He specializes in family practice.

■ **Martin A. Alpert, M.D.,** RM IE-65 University of Missouri Health Sciences Center, 1 Hospital Drive, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Alpert received his preliminary education at the University of Akron and his medical degree at Ohio State University in 1973. He completed his residency training at the University of Missouri Medical Center and Harry S. Truman Veterans Hospital. He specializes in internal medicine and cardiology.

■ **Craig E. Aubuchon, M.D.,** 621 S. New Ballas Rd., Suite 101, St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Aubuchon received his preliminary education at St. Louis University and his medical degree at Medical College of Ohio in 1980. He completed his residency at Southern Illinois University.He specializes in orthopedic surgery.

■ **Michael D. Blackburn, M.D.,** Boone Hospital Center, 1600 E. Broadway, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Blackburn received his preliminary education at the University of Michigan and his medical degree at the University of Michigan in 1975. He completed his residency training at the University Hospital of Jacksonville, Fla. He specializes in emergency medicine.

■ **Mary M. Bodie, M.D.,** 6313 Michigan, St. Louis 63111, has become a member of the St. Louis Metropolitan Medical Society. Dr. Bodie received her preliminary education at Boston College and her medical degree at Loyola Stritch School of Medicine in 1981. She completed her residency training at Los Angeles County and U.S.C. Medical Center. She specializes in internal medicine.

■ **Cornelius L. Britt, M.D.,** 400-B S. Truman Blvd., Crystal City 63019, has become a member of Jefferson County Medical Society. Dr. Britt received his preliminary education at St. Louis University and his medical degree at the University of Missouri-Columbia in 1978. He completed his residency training at the University of Missouri-Columbia Medical Center. He specializes in orthopedic surgery.

■ **Charles G. Freeman, M.D.,** 2327 Truman Blvd., Crystal City 63019, has become a member of the Jefferson County Medical Society. Dr. Freeman received his preliminary education at the University of Missouri and his medical degree at St. Louis University in 1976. He completed his residency training at St. John's Mercy, St. Louis. He specializes in obstetrics and gynecology.

■ **Angel R. Garcia, M.D.,** Ellis Fischel Cancer Center, 115 Business Loop 70 West, Columbia 65203, has become a member of the Boone County Medical Society. Dr. Garcia received his preliminary education at the University of Puerto Rico and his medical degree at the University of Barcelona in 1963. He completed his residency training at Charity Hospital, Louisiana State University. He specializes in internal medicine, nuclear medicine and endocrinology.

■ **Charles F. Gholson, M.D.,** 60 Doctor's Park, Suite A1, Cape Girardeau 63701, has become a member of the Cape Girardeau Area Medical Society. Dr. Gholson received his preliminary education at Washington & Lee University and his medical degree at the University of Tennessee in 1978. He completed his residency training at the University of Colorado, Denver. He specializes in gastroenterology.

■ **David C. Haueisen, M.D.,** 12615 Old Tesson Rd., St. Louis 63128, has become a member of the St. Louis Metropolitan Medical Society. Dr. Haueisen received his preliminary education at the College of Wooster and his medical degree at Case Western Reserve University in 1980. He completed his residency training at Akron General Medical Center, Akron, Ohio. He specializes in orthopaedic surgery and hand surgery.

■ **Timothy J. Jordan, M.D.,** 108 Bonnie Lane, Festus 63028, has become a member of Jefferson County Medical Society. Dr. Jordan received his preliminary education at St. Mary's University and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at Sacred Heart Children's Hospital, Pensacola, Fla. He specializes in pediatrics and developmental and behavioral pediatrics.

■ **Richard J. Katnik, M.D.,** Department of Neurology, Health Sciences Center, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Katnik received his preliminary education at the University of Colorado and his medical degree at Creighton University in 1973. He completed his residency training at Barnes Hospital and St. Louis Childrens. He specializes in neurology and pediatric neurology.

■ **Donald E. Philgreen, M.D.,** The Light House, 1409 E. Meyer Blvd., Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Philgreen received his preliminary education at Wheaton College and his medical degree at the University of Chicago in 1967. He completed his internship at St. Luke's Hospital, Kansas City. He specializes in family practice.

■ **David L. Pohl, M.D.,** 1325 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Pohl received his preliminary education at University of North Carolina and his medical degree at the University of North Carolina in 1979. He is completing his residency training at St. Louis University Group Hospitals. He specializes in diagnostic radiology.

■ **Peter G. Tuteur, M.D.,** 660 S. Euclid, Box 8043, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Tuteur received his preliminary education at Johns Hopkins University and his medical degree at the University of Illinois in 1966. He completed his residency training at Michael Reese Hospital. He specializes in internal medicine and pulmonary diseases.

■ **Bruce R. Westcott, M.D.,** P.O. Box 877, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Westcott received his preliminary education at the University of Tennessee and his medical degree at the University of Tennessee in 1983. He completed his residency training at the University of Tennessee. He specializes in anesthesiology.

New Student Members

St. Louis University
Jamie F. Scott

University of Missouri-Columbia
Charlene Adkins
Jean Elizabeth Birmingham
Timothy Bopp
Ann C. Borgmeyer
Timothy L. Duniho
Victor Grigoryev
Ellen M. Hartenbach
Joseph Thomas Hilgeman
Melanie K. McCleave
Ann Mushinsky-Tralles
Nanette Susan Nuessle
Jamie Petsch
Karen Sistrunk-Brown
Deborah Gayle Thomas
Kelvin Walls

University of Missouri-Kansas City
Coleman Hunt Wheeler
Eden Wheeler
Rachel Wheeler

An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine.* Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine,* P.O. Box 1028, Jefferson City, MO 65102.

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Medical School News

The University of Missouri-Columbia

■ **Philip Anderson, M.D.,** professor and chair of dermatology, and **David Clark, M.D.,** are attending The Fifth World Congress on Medical Informatics, which will be providing coverage of the Medinfo 86 program to be held in Washington, DC, October 26-30. President Reagan is slated to be the opening speaker. The convention will feature 49 scientific demonstrations relating to computer applications in medical care.

■ **Diana Baldwin,** instructor of occupational therapy, recently received the Missouri Occupational Therapy Association's Award of Merit.

■ **William D. Bradshaw, M.D.,** professor of family and community medicine, received the 1986 Missouri Academy of Family Physicians (MAFP) Award of Recognition. Dr. Bradshaw, former dean of UMC's School of Medicine, was honored at the MAFP meeting this summer for his commitment to family practice. Dr. Bradshaw served as a family practitioner for 22 years in Clinton, MO, before joining UMC's Department of Family and Community Medicine.

■ **Thomas Broster, M.D.,** a resident at UMC's School of Medicine, won the Kenneth Keown Outstanding Anesthesiology Resident Award. Dr. Broster was chosen for the $400 award from a field of nine residents. The scholarship was established as an annual stipend following the death of UMC Professor Emeritus of Anesthesiology **Kenneth Keown** in September, 1985. Dr. Keown was founder and former chairman of the Department of Anesthesiology.

■ **Gordon Brown, Ph.D.,** professor and director of Health Services Management, was elected chairman of the board of directors of the Association of University Professors in Health Administration for 1986-87. This association includes faculty from 150 international universities.

■ **Peggy L. Dawson, M.Ed., OTR,** recently presented a paper on the "Treatment of Multiple Personality Disorder" to an international meeting of occupational therapists at the Langara Conference in Vancouver, British Columbia.

■ **Jay Dix, M.D.,** was named Director of Laboratories by the Department of Pathology. He succeeds **W. B. Stewart, M.D.,** who is retiring. Dr. Dix also presented a seminar on "Scene Investigation and Forensic Pathology" at the Missouri State Highway Patrol Workshop for investigators in Jefferson City earlier this year.

■ **Robert Frank, Ph.D.,** assistant professor of physical medicine and rehabilitation, is co-investigator of a $212,000 grant from the Veteran's Administration Medical Research Service for the study of "Life, Stress and Coping Strategies in Arthritis."

■ **Lamont Gaston, M.D.,** professor of pathology, was recently reappointed to the Editorial Board of the American Journal of Clinical Pathology.

■ **Allan Jones, M.D.,** professor and chairman of physiology, has earned a prestigious $700,000, five-year grant from the National Institutes of Health. The NIH's National Heart, Lung and Blood Institute is honoring Dr. Jones with one of the Institute's first Method to Extend Research In Time (MERIT) grants for his research of "Hypertension Mechanisms and Vascular Ion Exchange." This unusual MERIT award is designed to provide extended support to researchers who have made "distinctly superior" scientific contributions. The NIH awarded the grant based on special importance, promise and merit of the research, as well as the investigator's leadership and success record. This grant will also allow Dr. Jones a grant extension of up to five years when this grant expires.

■ **Kathlyne Heilman,** a third-year medical student from Springfield, has been awarded the Glaxo Pediatric Infectious Diseases Medical Student Research Fellowship. Heilman used the $1,500 fellowship this summer in the Child Health Department to study bacterial toxins in the blood stream.

■ **Freidhelm Schroeder, Ph.D.,** associate professor of pharmacology, has been awarded a three-year grant for $231,483 from the National Institute of Health for his research on "Asymmetric Distribution of Cholesterol in Membranes." Dr. Schroeder recently presented papers on his research at the Gordon Research Conference on Biology of Aging in New Hampshire and at the 14th International Cancer Congress in Budapest, Hungary.

■ **Joseph Walls, M.D.,** assistant professor of surgery, presented a paper on the "Adverse Effect of Permanent Cardiac Internal Defibrillator Patches on External Defibrillation" in Brighton, England for the European Society for Cardiovascular Surgery this summer. Co-authors of the paper are **John Schuder, Ph.D.,** professor of surgery; **Jack Curtis, M.D.,** assistant professor of surgery; **Hugh Stephenson, M.D.,** professor of surgery; and **Greg Flaker, M.D.,** assistant professor of medicine.

■ For the eighth straight year, The Department of Ophthalmology has received a grant from Research to Prevent Blindness Inc. The $25,000 unrestricted gift will support scientific study of the causes, treatments and prevention of blindness.

■ The UMC School of Medicine hosted ten mid-Missouri high school students this summer for eight weeks of research in a program designed to encourage minority students to enter the medical profession. The students, all juniors, worked in cardiology, anatomy, physiology, microbiology, and other areas of the medical school.

University of Missouri-Kansas City

■ Three UMKC School of Medicine faculty members recently were awarded a total of $30,000 in first-year funding by the Monsanto Corporation. Assistant professor **Jay Portnoy, M.D.,** received $17,000 in first-year funding for "Standardizing of Allergenic Extracts Using Monoclonal Antibodies." Dr. Portnoy is chief of the Section of Allergy/Immunology for the Department of Pediatrics. Ob/Gyn professor **Dev Maulik, M.D., Ph.D.,** was awarded $10,000 in first-year funding for "Doppler Ultrasound Assessment of Maternal and Fetal Hemodynamics." And,

Frank Slovick, M.D., docent and assistant professor of Hematology/Oncology, received first-year funding of $3,000 for "The Effects of Hyperthermia, Local Anesthetic Agents, and Anthracycline Antibiotics on the In Vitro Growth of Leukemic and Normal Hematropoietic Progenitor Cells."

■ **R. Lee Evans, Pharm.D.**, associate professor of Pharmacy and Medicine at UMKC School of Medicine, and **Robin K. Hornstra, M.D.**, professor and chairman of UMKC School of Medicine's Psychiatry Department, recently were awarded $18,780 from the University of Missouri's Weldon Springs Endowment Fund for the study of schizophrenic treatments. The study is titled "Assessment of Clinical Response of the Recalcitrant Schizophrenic Patient Exposed to Optimal Antipsychotic Serum Concentrations."

■ **Daniel Bergmann, M.D.**, assistant professor of Surgery, and **Paul Cuddy, Pharm.D.**, assistant professor of Pharmacy and Medicine at UMKC School of Medicine, are 1986 winners of the Dr. Alex Sonnenwirth Memorial Faculty Research Award. Their $2,500 award is for the study, "The Effect of Parenteral Refeeding on the Disposition of Theophylline in Malnourished Patients." Dr. Alex Sonnenwirth was one of the early presidents of the St. Louis Friends of UMKC School of Medicine.

■ Third-year UMKC School of Medicine student **Linda Siy** is a recipient of the Ciba-Geigy Award for Outstanding Community Service. She received the *Netter Atlas*, a series of medical textbooks, for her efforts.

■ UMKC School of Medicine this summer hosted its seventh annual group of Summer Scholars. The program, which seeks to expose minority and disadvantaged high-school students to the health professions, consisted of 23 students this year. Participants go through rotations such as the Emergency Room and Hematology, but they also attend classes on subjects ranging from learning skills to self-awareness to interviewing.

■ UMKC School of Medicine recently hosted its annual summer Parents Weekend, sponsored by the Medical Student Advisory Board. Parents and students took part in an auction, variety show put on by the medical-student-cast of the On Call performing group, and brunch and baseball game at Royals Stadium.

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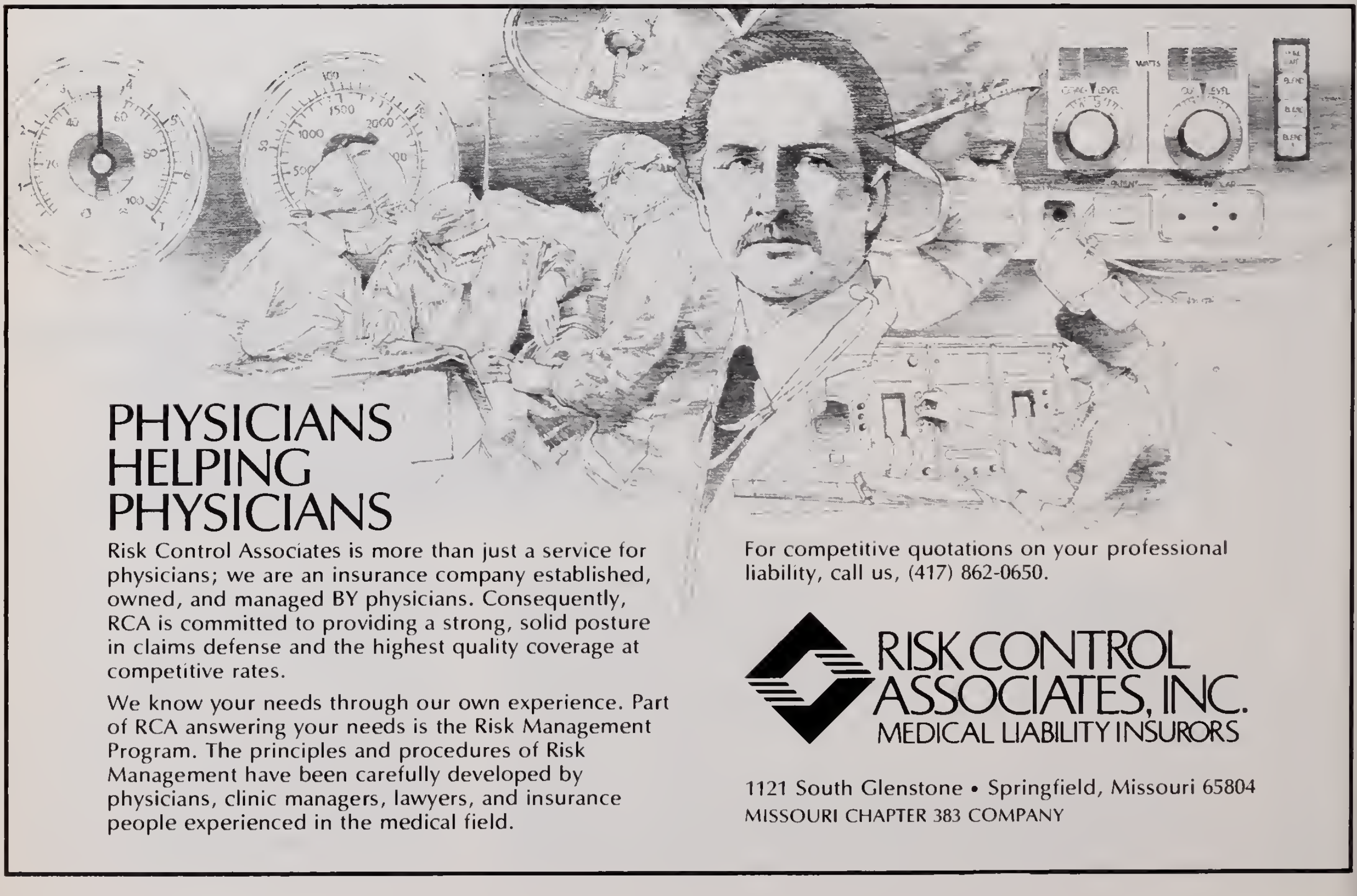

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October

9-11 **29th Annual Physicians Weekend** — Location: MA217 Auditorium, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

16 **Management of Head & Neck Problems** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

17 **Fertility Awareness and Natural Family Planning: Applications to the Adolescent and Adult** — Location: St. Louis University School of Nursing. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

17 **American Cancer Society: Pediatric Oncology Symposium** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

17 **The Ethical Dilemma: Limited Resources — Difficult Decisions** — Location: The Hilton Inn Conference Center, Columbia, MO. Contact: Boone Hospital Center's Affiliated Services, Columbia, MO. 314/875-3712.

17-19 **Missouri Thoracic Society Ozark Chest Conference VI: Pleural Disease and Lung Cancer** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Sheldon R. Braun, M.D., UMC Hospital and Clinics, Room MA 419, Division of Pulmonary and Critical Care Medicine, 1 Hospital Drive, Columbia, MO 65212. 314/882-2991.

21-22 **Medicine and Religion: Ethics of Sexuality and Reproduction** — Location: Battenfeld Auditorium, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

24 **Contemporary Drugs of Abuse** — Location: Clarion Hotel, South 4th St., St. Louis, MO. Contact: Regional Poison Center, 1465 S. Grand Blvd., St. Louis, MO 63104. 314/772-8300.

24-25 **Emergency Respiratory Care** — Location: Doubletree Hotel, Overland Park, KS. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29 **Oncology Update** — Location: Breckenridge Inn Frontenac, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

30-31 **Chronic Obstructive Pulmonary Disease** — Location: Columbia Hilton. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia 65212. 314/882-4105.

November

5 **Pediatric Neurology Update** — Location: Danis Auditorium, Cardinal Glennon Children's Hospital, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

5 **Searching MEDLINE with Your Personal Computer** — Health Sciences Library, UMC School of Medicine. Contact: Weldon D. Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212 314/882-4105.

5-6 **Advanced Cardiac Life Support Provider Course** — Location: Student Center, Fransisco Lounge, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4488.

7 **Advanced Cardiac Life Support Instructor Course** — Location: Student Center, Fransisco Lounge, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4488.

6-8 **Clinical Allergy for the Practicing Physician** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

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6-8 **Annual Fall Clinical Conference,** Kansas City Southwest Clinical Society — Location: Alameda Plaza Hotel. Contact: Linda F. Smutz, Executive Director, 222 W. Gregory, Kansas City, MO 64114. 816/523-3383.

12 **Antihypertensive Therapy, The Changing Focus** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

14-16 **13th Annual Symposium: Anesthesia and the Geriatric Patient** — Location: St. Louis Marriott Pavilion Hotel. Contact: Geriatric Symposium, Department of Anesthesiology, Box 8054, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, 63110.

15 **Obstetrical Liability: The University, The Community Hospital, National Perinatal Standards** — Location: Christian Hospital Northeast, St. Louis. Contact Loretta Giacoletta, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110 314/362-6893.

19 **Infectious Diseases Seminar** — Location: Sheraton Westport, St. Louis. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6890.

21 **Searching MEDLINE with Your Personal Computer** — Location: Health Sciences Library, UMC School of Medicine. Contact Weldon D. Webb, University Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

December

3 **Cardiovascular Medicine Today: Theory and Practice** — Location: King Henry VIII Lodge and Inn, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Angina Pectoris** — Location: Pending. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Magnetic Resonance Imaging** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

10 **Fifth Annual Symposium in Geriatric Medicine** — Location: Holiday Inn Westport, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4488.

12-13 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

January 1987

4-9 **Practical Rheumatology for the Primary care Physician** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

13-19 **Bone Health: Endocrinological, Rheumatological, and Nutritional Aspects** — Location: Las Brisas, Acapulco, Mexico. Contact Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110.

February

4-6 **Seventh National Conference on CAPD** — Location: Westin Crown Center, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

28-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

May

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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Manuscripts

Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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■ **John M. Anderson, M.D.,** 100 N. Euclid, St. Louis 63108; graduate of Meharry Medical College, 1958; member of the St. Louis Metropolitan Medical Society; age 70; died Aug. 17, 1986.

■ **Robert E. Denton, M.D.,** 620 S. Commercial, Smithville 64089; graduate of the University of Kansas, 1964; member of the Clay-Platte County Medical Society; age 53; died Aug. 1, 1986.

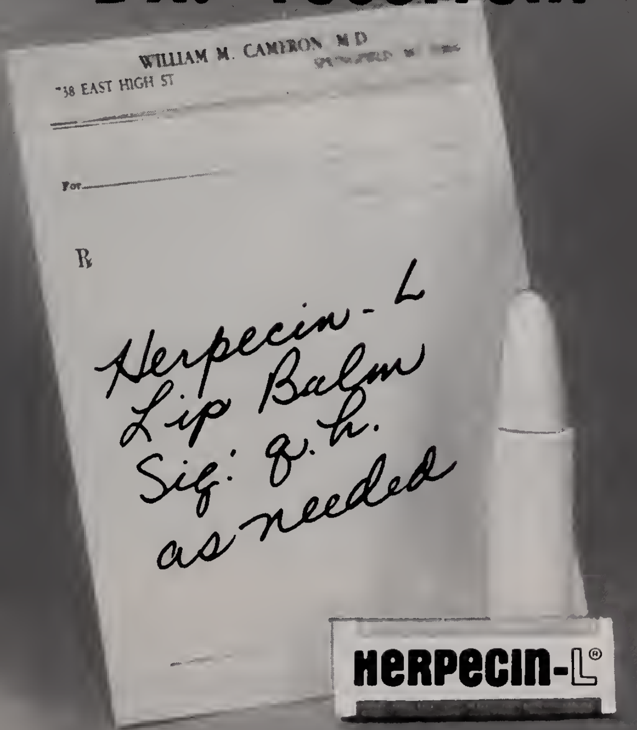
■ **Jose M. Fischer, M.D.,** 2700 Hospital Dr., Suite 510, North Kansas City 64116; graduate of the Monterrey Medical School, 1961; member of the Clay-Platte County Medical Society; age 50; died July 28, 1986.

■ **Joseph A. Graneto, M.D.,** 5942 Crane Circle, St. Louis 63109; graduate of St. Louis University, 1929; member of the St. Louis Metropolitan Medical Society; age 83; died July 7, 1986.

■ **Walter R. Jordan, M.D.,** 18012 Desert Glen Dr., Sun City West, AZ 85372; graduate of Washington University, 1929; member of the St. Louis Metropolitan Medical Society; age 91; died May 1, 1986.

■ **Milford T. Kubin, M.D.,** 2013 Douglas MacArthur Dr., Starkville, Miss. 39759; graduate of the University of Kansas, 1929; member of the Boone County Medical Society; age 83, died Aug. 11, 1986.

Dx: recurrent herpes labialis



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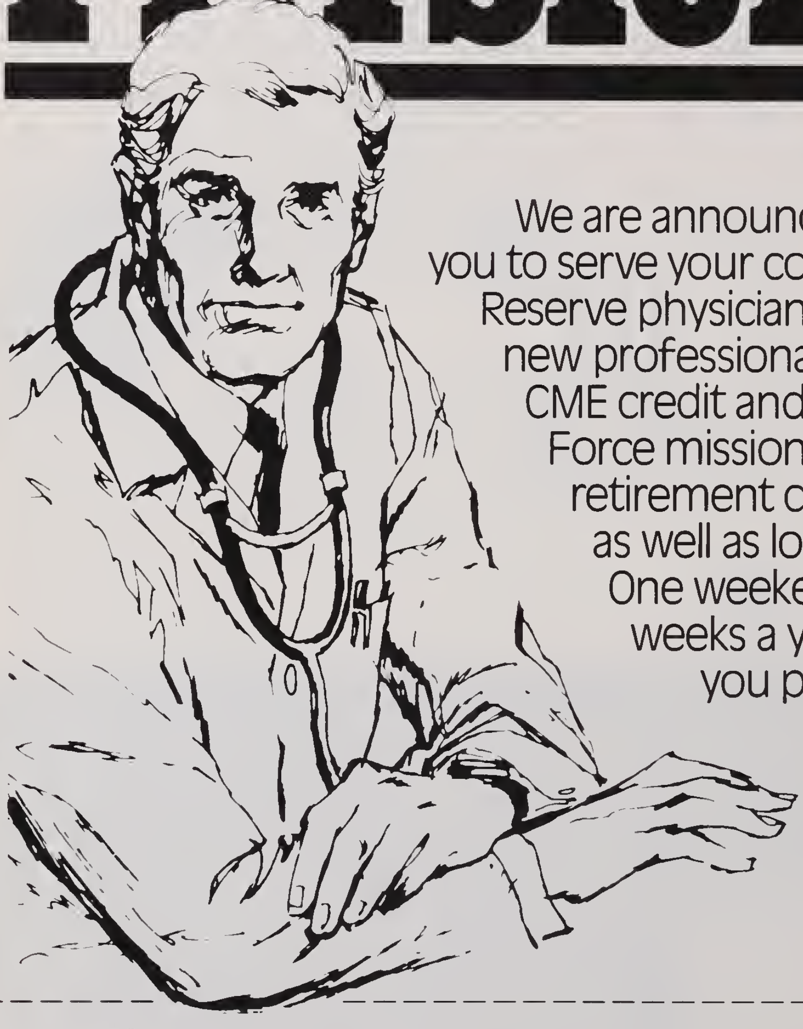

Physician's Recognition Awards

Twenty-four MSMA members qualified for the MSMA-AMA Physician's Recognition Award during July 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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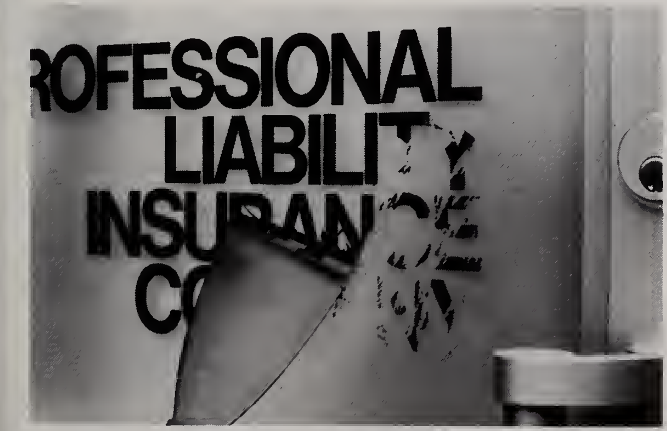

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This Date in Medical History OCTOBER

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1853 John Langdon Haydon Langdon-Down (1828-1896) becomes a medical student at The London Hospital. Noted for his gentleness, his 1866 "Observations on an ethnic classification of idiots" gave the first detailed description of the genetic disorder that bears his name. He also described dystrophia adiposa-genitalis four decades before Fröhlich.

2

1861 William J. Little (1810-1894) presents his classic paper on asphyxia and brain damage (cerebral palsy, Little's disease) before the Obstetrical Society of London. The society president thought teething a more likely cause of paraplegia.

1893 Opening date of classes for the first students at Johns Hopkins Medical School.

3

1854 William Crawford Gorgas, American surgeon, is born. As chief sanitation officer for the Panama Canal, he directed the yellow fever research there.

4

1774 Benjamin Church (1734-1777), the first Surgeon General of the Continental Army, is found guilty of treason. In addition to being a physician, he was a high-living minor poet and adulterer; the decoding of an intercepted cryptogram proved his undoing.

1883 William Gibson Arlington Bonwill, American physician, surgeon, dentist, inventor, carpenter, cabinet maker, school teacher, is born. His inventions include the all porcelain tooth crown, the dental and surgical engine, the removable bridge, a safety-pointed pin and a machine to carve marble and rock.

5

1978 The *New England Journal of Medicine* declares professional courtesy obsolete.

6

1947 Bobby Brown ends the Dodger lead in the last game of the World Series. He was in four World Series with the New York Yankees, later went to medical school and eventually became president of the American League.

9

1860 Leonard Wood, American physician, military governor of Cuba, and Congressional Medal of Honor winner for the Campaign against Geronimo, is born.

10

1789 Dr. Joseph I. Guillotin (1738-1814) proposes to the French National Assembly the use of a new method of capital punishment "without torture." It will be named after him.

12

1915 English nurse Edith Cavell is executed as a spy for helping Allied soldiers escape occupied Belgium.

16

1846 A twenty-year-old printer, Gilbert Abbot, is administered ether by William Morton and then operated on by Dr. John C. Warren at the Massachusetts General Hospital. Dr. Warren states, "Gentlemen, this is no humbug." Dr. Henry Bigelow says, "I have seen something today that will go around the world."

18

1854 The British war cabinet unanimously confirms Florence Nightingale as Superintendent of the Female Nursing Establishment of the English General Hospitals in Turkey. Benjamin Jowett, the Oxford Platonist, on being asked what his lady-love, Florence Nightingale, was like, replied, "Violent, very violent."

22

1910 In the Old Bailey a guilty verdict is passed on Dr. Hawley Harvey Crippen for the murder of his wife Cora. The wireless telegraph is used for the first time in the dramatic apprehension of the culprit at sea; his mistress accompanied him disguised as a young man. This case represented one Dr. Bernard Spilsbury's dramatic successes for forensic pathology.

23

1814 Joseph Constantine Carpue (1764-1846) performs the first plastic surgery operation in Britain. He reconstructs the nose of an army officer who lost it through mercury poisoning.

24

1909 John Milton McLean, American ophthalmologist who established the first corneal eye bank, is born.

25

1653 Theophraste Renandot, French physician and editor, the "Father of French Journalism," dies. He founded, edited and published the first political journal, *La Gazette de France*. He also created the first free medical clinics for the poor, and he started the first pawnshops in France.

28

1880 *Nature* prints a letter from the Scottish physician Henry Faulds working in Tokyo on the utility of fingerprints in criminal investigation. "The pattern was unique."

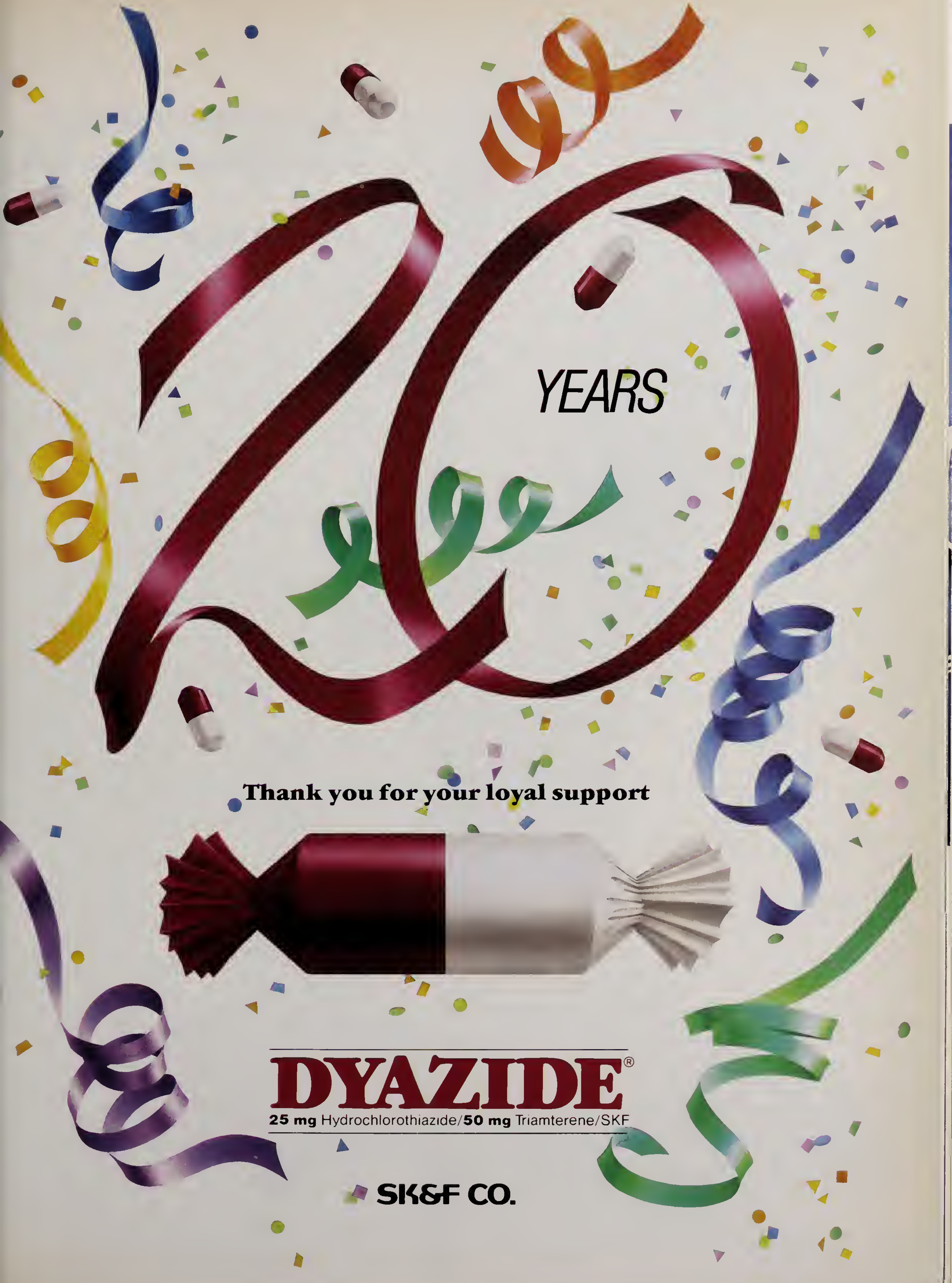
1858 Henry Koplik, American pediatrician who isolated the bacillus for whooping cough and established the first milk depot for poor infants, is born. Koplik's spots are an early diagnostic sign of measles.

30

1910 Jean Henri Dunant, founder of the International Red Cross, dies.

31

1749 The English chemist John Dalton reads a paper featuring the first description of color blindness (Daltonism).



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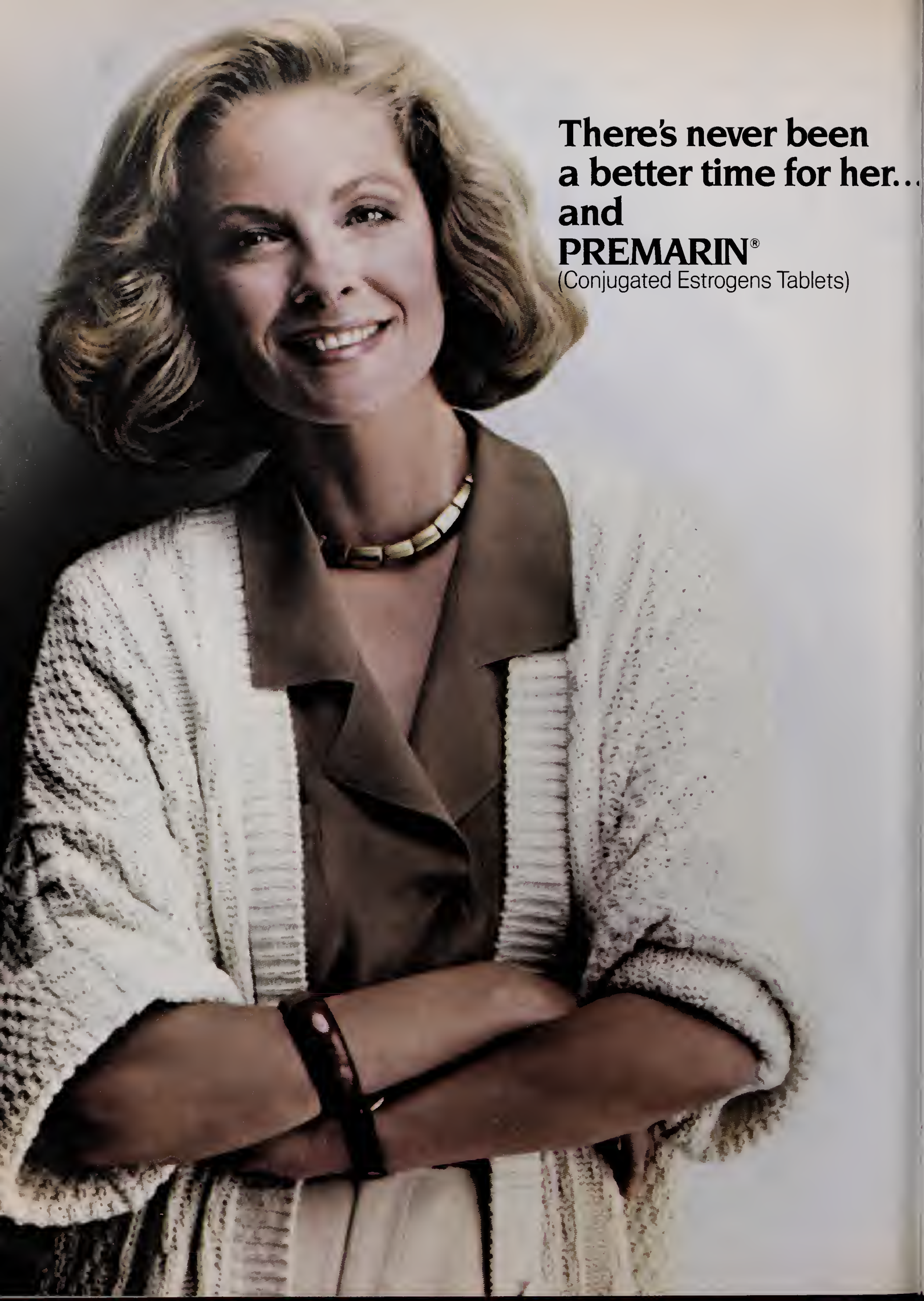
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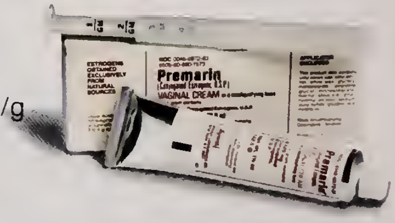

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4 5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix Although these changes are histologically benign, it is not known whether they are precursors of malignancy Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000 In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0 9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0 625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis Kraurosis vulvae Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1 Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia 3 Known or suspected pregnancy (See Boxed Warning). 4 Undiagnosed abnormal genital bleeding 5 Active thrombophlebitis or thromboembolic disorders 6 A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use The pathologist should be advised of estrogen therapy when relevant specimens are submitted If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism

The following changes may be expected with larger doses of estrogen.

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3; increased norepinephrine-induced platelet aggregability

c Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG, free T4 concentration is unaltered

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion

f. Reduced response to metyrapone test.

g Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment, increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females

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1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2 *Given cyclically*: Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0 625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

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Given cyclically for short-term use only For treatment of atrophic vaginitis or kraurosis vulvae

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric *Br Med J* 1980;280:822-824. **3**. Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women *Semin Reprod Endocrinol* 1983;1:1;41-52 **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219

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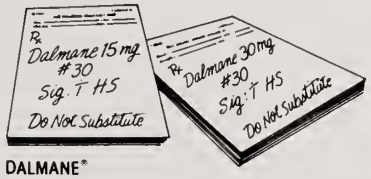
References: **1.** Kales J, *et al: Clin Pharmacol Ther 12* 691-697, Jul-Aug 1971. **2.** Kales A, *et al. Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al. Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Dement WC, *et al: Behav Med*, pp. 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al.* Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



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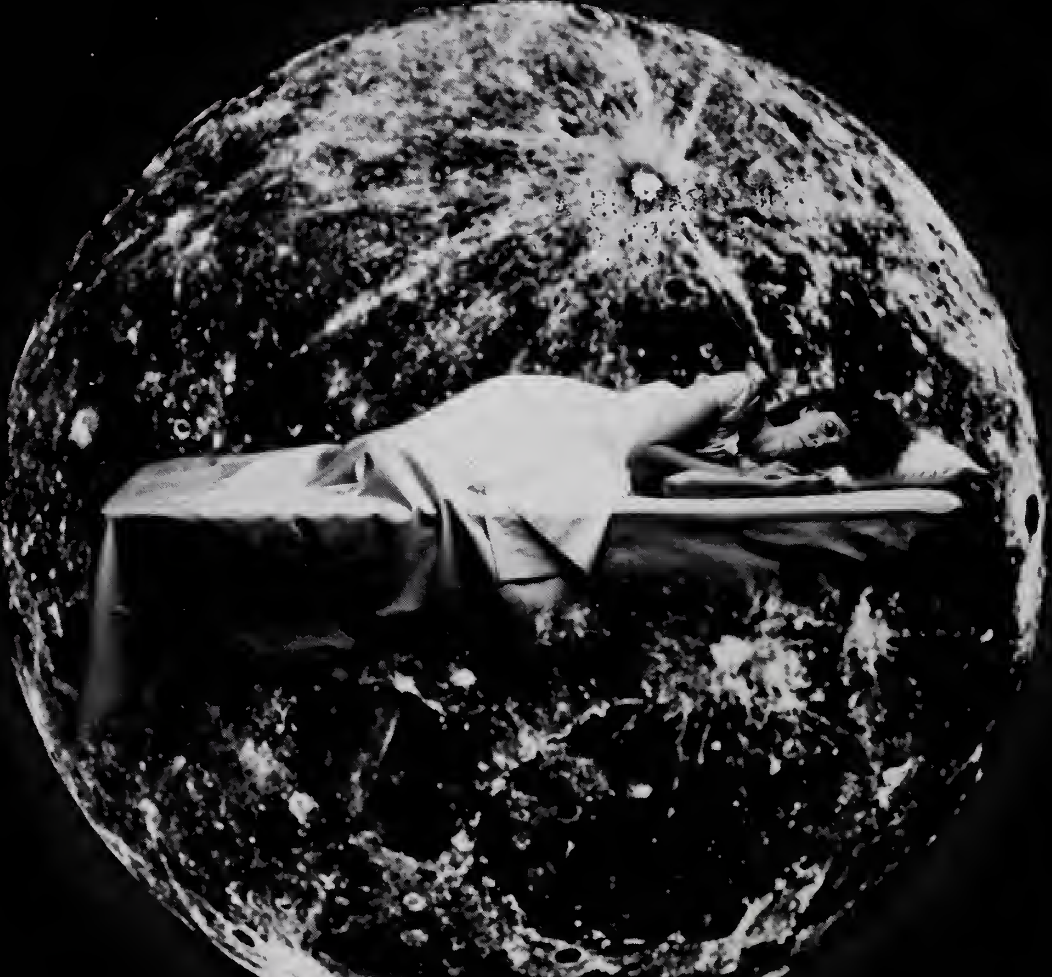

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Editor's Note:

In the September issue of *Missouri Medicine* we discussed a problem involving aspergillosis. This month leptospirosis and tularemia are examined as they can occur in Missouri, besides considering the public health menace AIDS from a pediatric standpoint. Despite the advances in the control of infections of the past 50 years, some of the more exotic microbes continue to challenge us. ■

An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

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"Students in Front of Hill Hall," watercolor by Terry L. Martin of *Columbia*. The painting was a gift from the University of Missouri-Columbia College of Education to professor Lloyd Jorgenson upon his retirement.

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MSMA Progress Notes

Medicaid may begin paying for midwives

The state may soon begin making Medicaid reimbursement payments to nurse-midwives.

However, Missouri has so few practicing midwives that the proposal is expected to have little effect on the prenatal and postnatal care offered to poor women.

Recently, the office of Attorney General William L. Webster handed down an opinion saying state law and recent court decisions allow registered professional nurses to practice as nurse-midwives. Officials in the state Division of Medical Services are reviewing this opinion. Federal law allows reimbursement to midwives in states that allow them to practice.

Missouri is believed to have fewer than 10 nurse-midwives practicing. Many work in medical practices where Medicaid patients are not served.

In addition, no hospital in Missouri allows nurse-midwives to deliver babies. The current Missouri Medicaid plan, which has been in effect since July 1, 1982, does not allow for the reimbursement of nurse-midwife services on the ground that nurse-midwives are unauthorized to practice in Missouri.

Missouri law prohibits the unauthorized practice of medicine. It says that those who are not registered physicians may not "engage in the practice of midwifery in this state."

But Webster's opinion noted that recent court decisions have expanded the types of allowable medical services that may be delivered by registered nurses, including prenatal and postnatal care and deliveries. Lay midwives still are prohibited from delivering babies. ■

Tax deferred plan available

Members of MSMA should be aware of a special benefit available to providers for Medicaid. Individual physicians who have their own Medicaid provider number may qualify to have up to $7,500 per year of their Medicaid compensation placed into a tax deferred program. This is limited only to physicians with individual provider numbers.

Those wishing to know more about this benefit may contact Ron Ellison, Director of Scientific Affairs, MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Get Involved!

With the 1986 elections behind us, thoughts are turning to the 1987 Missouri General Assembly, which opens January 7.

Every year, the state legislature considers scores of bills that have implications for physicians, their patients and practices. Lawmakers *need* input from the medical community when they work on medical issues.

The Physician Involvement Program (PIP) is your opportunity to add your voice to the decisionmaking. Every Wednesday during the Legislative Session, a group of physicians will meet with their legislators, view the Session, and personally participate in the democratic process.

Check your calendar now and plan to join a group of PIP physicians in 1987. It's enlightening, educational, and IMPORTANT.

Write today for details: Physician Involvement Program, MSMA, P.O. Box 1028, Jefferson City, MO 65102. ■

Oregon court rules on peer review immunity

Physicians are exempt from anti-trust scrutiny for any activities they conduct under legislatively mandated peer review programs, a U.S. Court of Appeals has ruled in reversing a trial court decision for an Astoria, OR, general and vascular surgeon.

The AMA, the Oregon Medical Association and the Joint Commission on Accreditation of Hospitals had filed an amicus curiae brief supporting the need for legal immunity since peer review is carried out in the public interest.

In remanding the case for retrial, the U.S. Court of Appeals for the Ninth Circuit said the lower court erred by failing to instruct the jury properly regarding the applicability of statutory immunity. The jury found that the defendant, an Astoria, OR, clinic, had violated Sections 1 and 2 of the Sherman Anti-Trust Act and had interfered, under Oregon law, with the prospective economic advantage of the surgeon who left the clinic to go into practice on his own.

The surgeon contended that the clinic had tried to put him out of business so it could monopolize the surgical field when he declined to refer patients for consultation. He had been disciplined by the Oregon Board of Medical Examiners for unprofessional practices as the result of a complaint initiated by the clinic.

Oregon law requires that peer review programs exist for the purpose of granting or restricting privileges of medical staff to reduce morbidity and mortality and improve patient care. ■

Certificate of need limits revised

In September, the Missouri Health Facilities Review Committee voted unanimously in favor of a motion to raise the Certificate of Need expenditure minimums to levels near the new Federal Guidelines. The revised expenditure minimums are now effective. They are as follows:

- $760,000 in the case of capital expenditures; or
- $316,500 annual operating budget in the case of new or expanded health services.

The expenditure minimum for the acquisition of major medical equipment was not revised and remains at $400,000. ■

Changes enacted by Missouri Crippled Children's Services

Effective July 1, new guidelines for hearing services went into effect for the Missouri Crippled Children's Service. Under diagnostic services, at least three visits within a six-month period will be allowed for diagnosis and determination of whether additional care will be necessary. With regard to surgical care, the following categories are to be authorized:

- chronic otitis media with two months of medical therapy by a pediatrician or otolaryngologist without resolution and speech reception threshold or pure tone average of 20 dB or greater in a soundproof testing environment;
- otitis media of one month duration with a speech reception threshold of 40 dB or greater in a soundproof room and/or flat type B tympanogram;
- chronic recurring acute otitis media with four bouts in a six-month period, documented by parent, pediatrician and/or otolaryngologist.

Procedures which are classified as head and neck and plastic and reconstructive are now able to be performed by a board certified otolaryngologist and be covered by the Missouri Crippled Children's Service. Cleft lip and palate procedures can be covered under this; however, these patients will continue to be cared for through the already established cleft palate teams. There are presently five cleft palate teams sponsored by the Crippled Children's Service in Missouri. Otolaryngologists who are having difficulties with coverage for procedures which are considered plastic and reconstructive are requested to contact Dr. Gregory Renner at the University of Missouri-Columbia. ■

Medicare update

In one of their final actions before adjourning the 99th Congress, the Senate and House approved a budget reconciliation package under which the Medicare fee freeze on non-participating physicians will expire December 31 and all physicians will receive equal Medicare reimbursement updates of 3.2%.

The reconciliation bill contained the Medicare provisions approved earlier by Senate-House conferees.

The detailed provisions of the reconciliation bill are being analyzed by AMA's Washington Office and legislative staff.

The fee freeze will be replaced with a system of limitations on maximum charge increases of non-participating physicians. ■

Strategies under tax reform

The Tax Reform Act of 1986 will require a new psychology, a new way of thinking about investments. Many of the tried-and-true formulas for avoiding taxes are going to change.

Corporate tax rate

A clear example of a required switch in thinking involves the corporate tax rate. The top corporate rate is slated to be 34%. The top individual rate will be 28%. If tax savings through a lower corporate rate was one of the original motivators for incorporating your profession or business it may be time for another look. You might be better off as an S corporation, a partnership, or a sole proprietor from a tax standpoint.

Contrarian Delight

Contrarian investors will use Tax Reform as an opportunity for savvy purchases. Remember back in 1981 few people wanted to talk about the stock market. Now few people want to talk about real estate, farmland, or oil and gas. Repeal of capital gains will (and already has) have an influence on unloading stocks between now and the end of the year. There could be some buying opportunities while the market is down.

Make charitable deductions in 1986

If you usually donate to your church or charity, and are in a high tax bracket, consider making your 1987 contribution before December 31, 1986. A $1,000 donation in 1986 saves $500 in taxes for a taxpayer in the 50% bracket. The same donation in 1987 will result in only $385 in saved taxes.

EE Bonds: Act now

One of the best kept investment secrets is the attractiveness of the governments new EE savings bonds. Presently these bonds are paying a minimum of 7.5% interest if held for a period of five years. The rate could be higher — it's tied to the T-Bond yields. These bonds are free of state and local taxes and the federal income taxes are deferred until the bonds are cashed in. Even then, the proceeds can be rolled over into an HH bond to defer taxation even further. The bonds can be purchased at most banks for $25 to $5,000 (half of the matured value). ■

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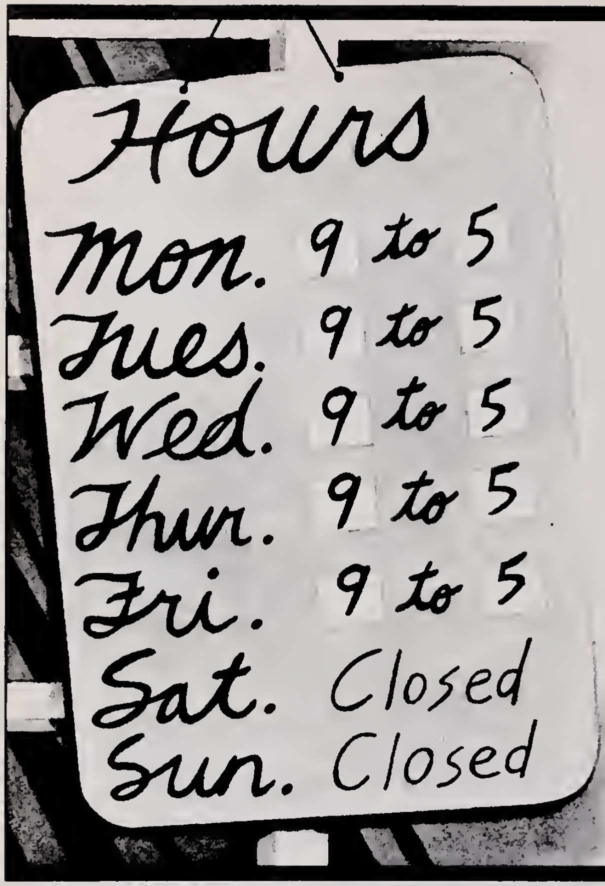

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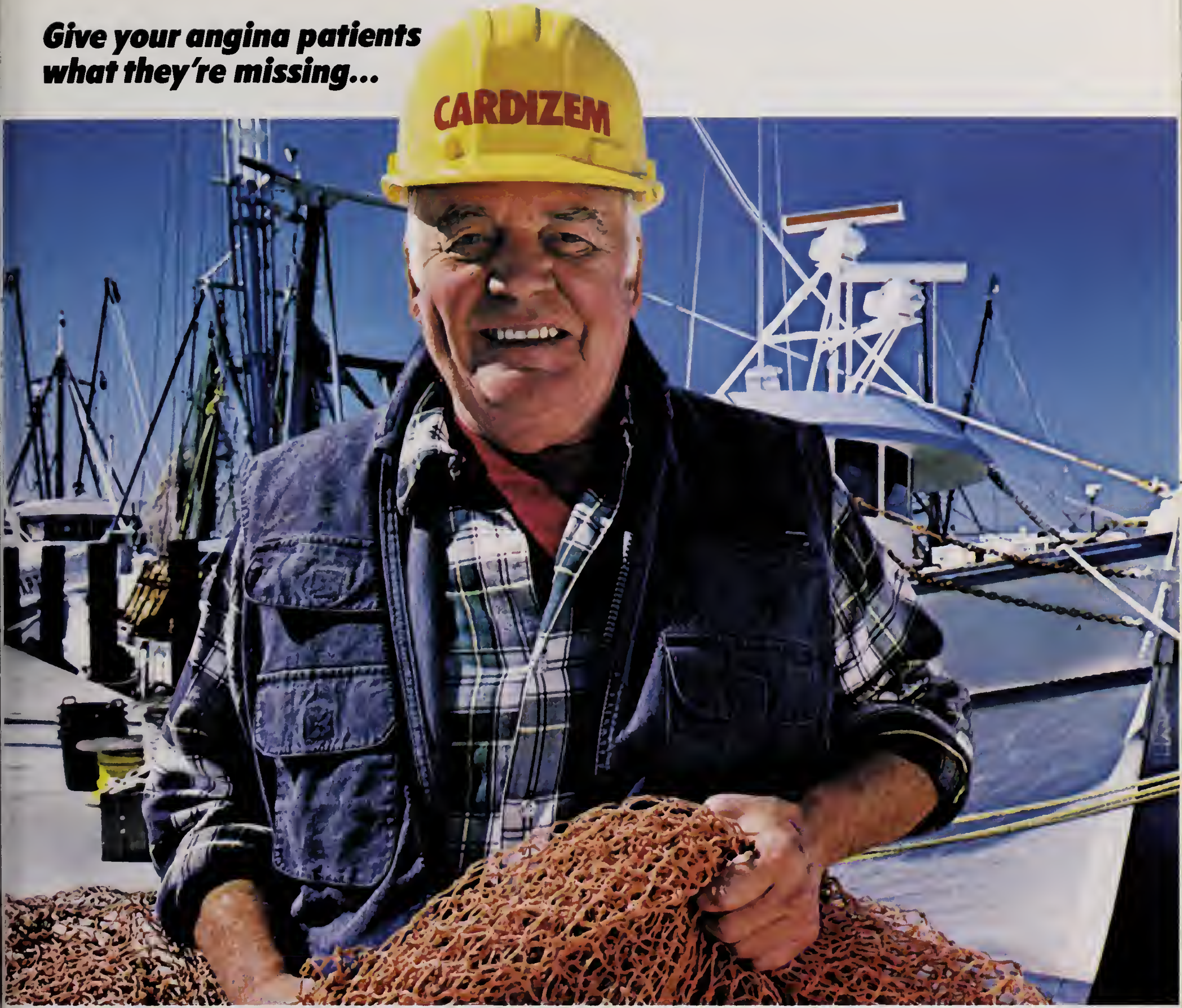

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***See Warnings and Precautions.**

Please see brief summary of prescribing information on the next page.

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Brief Summary
Professional Use Information

CARDIZEM®
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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*

   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 7/86

See complete Professional Use Information before prescribing

***References:* 1.** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983, 106(6):1341-1347.* **2.** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* **3.** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* **4.** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* **5.** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.*

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Letters to the Editor

Revoke Medicare fee freeze

Editor's Note: This letter was sent to Senator John C. Danforth, 460 Russell Bldg., Washington, D.C. 20510 by J. F. Fairchild, M.D., of Perryville, MO, the president of the American Academy of Family Physicians (AAFP).

Dear Senator Danforth:

Please help eliminate the Medicare fee freeze on physicians. This fee freeze is unconstitutional and represents unequal treatment of physicians under our great American System. Our fees have been frozen for almost four years. We are still being reimbursed on the basis of our 1982 charges in spite of the fact that inflation has continued unabated with respect to our overhead expenses and our malpractice premiums. No other segment of our economy is being discriminated against in this manner.

Fee freezes are particularly unfair to the family physician who relies primarily on his cognitive ability. Freezes compound pre-existing inequities of our Medicare reimbursement system. Removal of the fee freeze will give the family physician some breathing room and allow us to once again participate in the great American economic system.

Additionally, I plead for your intervention to help correct Medicare regulations which are punishing small rural hospitals. The rural hospitals around the country are in severe financial straits! Not because they are not serving their function well and in a cost-effective way, but because of Medicare inequities. If these discriminatory practices are not eliminated then many, many rural hospitals will face bankruptcy. Closing of rural hospitals will be medical disaster for rural Missouri. Presently in our own case, we are 85 miles from centers in St. Louis and 33 miles from secondary centers in Cape Girardeau. These referral centers are private hospitals and we presently are having difficulty in servicing Medicare patients in general and especially the poor and chronically ill. Closing of our rural hospitals will categorically deny decent care to these unfortunate people in our community.

The health care system is thirsty for the deregulation Mr. Reagan promised us all 6 years ago. We are eager to make our sacrifices in the manner of the defense industry, the banks, and the big oil companies.

I am appealing to you as a senior statesman and as a proponent of the American way, namely a free enterprise system.

Sincerely,
J. F. Fairchild, M.D.
Perryville, MO

Nathan Hale and his successors

Dear Dr. Burkey:

I'd like to share the following information with your readers.

He stands upright on Michigan Boulevard in Chicago. His feet are tied together with a rope around the ankles and his hands are tied behind his back. Hale's last words are known by most Americans: "I regret that I have but one life to give for my country." Certainly, his words inspire pride in all Americans.

Though Nathan Hale inspires us, this same feeling does not transfer to our members of the United States Congress. We feel anger and shame when recalling Chappaquidick, the driving while drunk arrests, and the lawmaker's fan dancer companion trying to hide in the Washington tidal basin.

Just how self-sacrificing are our lawmakers? Besides their regular salary which they vote to increase each year (to attract a higher class to run for office), House members receive $394,680 annually for "clerk hire" and Senators obtain from $695,244 to $1,396,944 for "staff aides." Tip O'Neill pays no income tax on his million dollar book contract.

Our lawmakers also voted for themselves a completely free emergency medical care plan without any prepaid deductible; our Medicare patients do not have this option. The legislators receive low cost prescription medicine, free parking at the Capitol and at National and Dulles airports, military flights, and assorted junkets. They pay no Social Security tax and receive handsome pensions upon retirement. Their operating budget for 1986 is 1.7 billion dollars!

Nathan Hale, the present generation of Americans salutes you. You gave everything for your country. Unfortunately, your successors appear to be taking all they can from their country. Your place in history and your tremendous example will shine forever.

Sincerely,
James J. Lally, M.D.
Kansas City, MO

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

In our own democratic system there is a separation of church and state, but a decreasing distance between medicine and state.

Affect legislation before it affects you

It's November, and we've just survived another election. The results are in, and most of us are (as usual) partly satisfied, partly dissatisfied. We'll all be glad to have the campaign pronouncements off the TV and out of the papers. However, while there is a fishing season and a hunting season and an upcoming holiday shopping season, politics knows no season.

Physicians in general eschew politics, but everywhere we play the political game. In socialistic governmental systems, medical care is proclaimed as equal for all, but doctors there admit that high-ranking government officials get more complete care. Friends of the doctor receive more of the art of medicine along with the scientific; the commoner who is known to bring presents gets seen first. In our own democratic system there is separation of church and state, but a decreasing distance between medicine and state. If a physician's work is his religion, his constitutional rights are becoming violated.

A commentary on our BIG government back East on the Potomac River would tend to become a lengthy harangue. However, much of political importance happens right here at the state and local levels, and it is here that we can have influence. We are concerned politically with our own welfare as well as that of our patients. There is money to be made by providers of medical care; there is money to be saved by state agencies when they underpay or deny medical care.

Considering all that could have happened in the Missouri Legislature the last few years, the interests of both physicians and their patients have fared well. During the 1986 Legislative Session, for example, seven out of ten bills supported by the MSMA passed; only one of 21 (the Optometry Bill) opposed by our organization passed; another half dozen were amended to our satisfaction. If our lobbying efforts seem more negative in scope, that has mainly to do with the plethora of special interest bills submitted every year.

A good deal of credit for our record in the Legislature, beyond the presumed basic intelligence of the state legislators, must be given to the MSMA. The small but active lobbying staff headed by "Cork" Swarens lives and breathes at the Capitol during Legislative Sessions, besides their year-around political activity. The MMPAC again this year has distributed funds to deserving candidates, but the most effective political weapons we have — personal contacts such as through the Key Contact and PIP programs — are sadly underutilized. Politics is also played at the county level, in health departments, in our hospitals and in medical meetings. The doctor who does this the best gets the new piece of automated equipment for his department. The disease which scares the public the most gets the health department's attention. The hospital which plays the government funding

Continued on page 762

my•o•pia

\mī-ˈō-pē-ə\: deficiency of foresight

SYMPTOMS: Most often observed in professionals who are inundated with day-to-day responsibilities. Dedicated to the needs of others, subject becomes focused on today... at the expense of tomorrow's full potential. May have complicated, expensive retirement plan with scattered investments and sometimes unfocused or nonexistent financial objectives. The lack of sufficient time and professional guidance may result in feelings of anxiety over future well-being of self, family and staff.

DIAGNOSIS: Financial myopia (common to this overworked peer group).

COMPLICATIONS: May not know where to turn for advice that is professional, comprehensive, personalized, flexible, diverse and *painless.*

R_x: As a member of the Missouri State Medical Association, you are eligible for treatment by highly qualified retirement planning specialists—no charge for initial consultation or subsequent quarterly or semiannual checkups. For security and peace of mind tomorrow (and possibly lower costs), call today for Michael Grimes - Director or Thomas Knapko - Associate Director at E.F. Hutton. Call collect 314-725-9690.

CONTRAINDICATIONS: None.

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Young physicians can contribute a different perspective to policy discussions in organized medicine.

Wanted: Young Physicians

During my visits to component societies, I have noted a lack of young physicians among the membership. The AMA Ad Hoc Committee on Young Physicians, of which Missourian J. Regan Thomas, M.D., was a member, submitted an enlightening report in June.

The committee was to study the special needs and concerns of young physicians — those under 40 years of age, or who are in the first five years of professional employment.

Their extensive research revealed that as a result of a number of changing environmental circumstances, young physicians have needs and concerns unlike those of either medical students, resident physicians, or more established physicians. Since 42% of all physicians are under 40, there is clearly a need for organized medicine to be responsive to the young physician.

The changing environment faced by these physicians includes an adverse set of economic circumstances. In 1985, 87% of medical school graduates were in debt — an average of $29,943. The impact of this lingering debt during their early practice years gives young physicians a different perspective. Practice income data reveal that their 1985 inflation-adjusted net incomes were lower than in either 1970 or 1975. The income of physicians over 40, meanwhile, kept pace with inflation during the same period.

Practice patterns studies indicate 65% of young physicians spend some time as employees, and only 47% are exclusively self-employed. The reasons behind this may be the growing number of physicians, increased liability insurance premiums, educational debt burden, the high cost of establishing a practice, the lower risk and greater security associated with guaranteed income, and also a high priority placed on a balanced life style. Young women physicians may place greater importance on the convenience of work hours and less emphasis on personal autonomy of future income potential. Women comprise 20% of physicians under age 40.

Although their attitudes do not differ substantially from those of older physicians, young physicians can contribute a different perspective to policy discussions in organized medicine. Despite currently low membership levels, many young physicians desire more active involvement. They are underrepresented in leadership positions. The Ad Hoc Committee's survey showed 30% of AMA members are under 40 years; however, only 13% of state level leadership position are held by young physicians. In the 1985 AMA House, only one delegate under 40 was a practicing physician.

The solution is being sought in an action plan to establish a "Young Physician

Continued on page 758

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Total Treatment.

The Institute has one of the most skilled and experienced surgical teams in the region. From angioplasty to open-heart surgery, to valve replacement and transplants, our staff brings to DePaul Health Center and you the support and expertise for total care. Future plans call for laser angioplasty as an additional treatment modality. Of course, not all heart disease requires surgery. Here, you have the environment, the facilities, staff and tools for consummate care of both inpatients and outpatients.

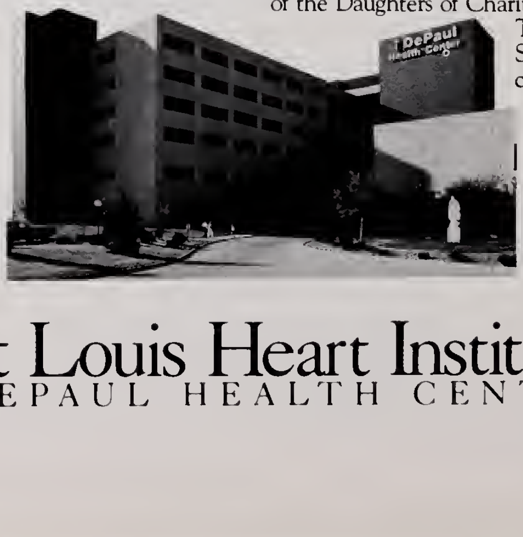
Effective Rehabilitation.

The Cardiac Rehabilitation Program at the Institute has all the phases to help keep the heart functioning at maximum capacity. Phase I begins while patients are recovering in the hospital. It is educational, covering diet, stress management and danger signals. Limited exercise is a transition to Phase II, a 12-week, closely monitored program of exercise. Phase III, one of the first programs in the area, promotes the continuation of risk-reducing habits. It's All Here.

See For Yourself.

You are invited to join us in getting a personal perspective on how we can team up with you in providing significant support in the treatment of your patients. Meet with our key cardiologists and support staff members. Tour the complete facility. See what the Institute has done to provide you and your patients the high levels of health care you require. See what we are doing for the future to remain a leader in the future. Our goals are high and heritage of service long; we're a Member of the Daughters of Charity National Health System.

To learn more about the St. Louis Heart Institute, call (314) 344-7025. Our toll-free number in Missouri is (800) 392-6007, and outside Missouri, (800) 826-7325.



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AT DEPAUL HEALTH CENTER

Auxiliary Message

by Jan Glover
MSMAA Health Projects Chairman

The focus of these programs will be on children, and we plan to carry our message throughout the state.

Projecting a Healthier Physician Image

One of this year's goals of the MSMA Auxiliary is to project a healthier physician image through a number of health programs. The focus of these programs will be on children, and we plan to carry the programs and our message to pre-schools, elementary schools, and high schools throughout the state.

Pre-schoolers and their parents will be supplied with a simple home eye test for amblyopia, developed by the National Society to Prevent Blindness. We hope to have the endorsement of Missouri ophthalmologists and plan to refer parents to their local ophthalmologist should a child's test results indicate a vision problem.

Our Cape Girardeau and Joplin auxiliaries have conducted very successful health fairs for elementary and high school children in their communities. The Cape auxilians successfully solicited support from many local agencies, physicians, and hospitals for their first day-long health fair. The project received rave reviews from all participants. Joplin's health fair, targeted for third-graders, is in its seventh successful year. The Joplin auxiliary has compiled a procedure manual for implementing a successful health fair. Other counties hope to learn from these two models and develop their own health fairs for kids, based on their individual capabilities, communities and school systems.

Teen suicide was the focus of our Fall Conference in Cape Girardeau, Oct. 14-16. Keynote speakers were Quincy, Ill., psychiatrist Richard Newman and his wife, Barbara. They outlined a pilot program now in place in the Quincy High School that is aimed at preventing teen suicide.

Dr. and Mrs. Newman co-authored the curriculum and implemented the program, which began with educating parents, teenagers and school personnel. A coalition of these three groups has developed effective intervention tools, with which potential adolescent suicide victims may be identified and stopped. The medical community must be on the forefront in addressing this serious problem.

The MSMA Auxiliary will be tackling some ambitious projects this year, as you can see. We anticipate the support of MSMA physicians as we work toward making our communities healthier places to live, work and play.

As we go into our pre-schools, elementary schools and high schools with information and education about child and adolescent health, we hope we can carry the positive image of the physician with us as well. ■

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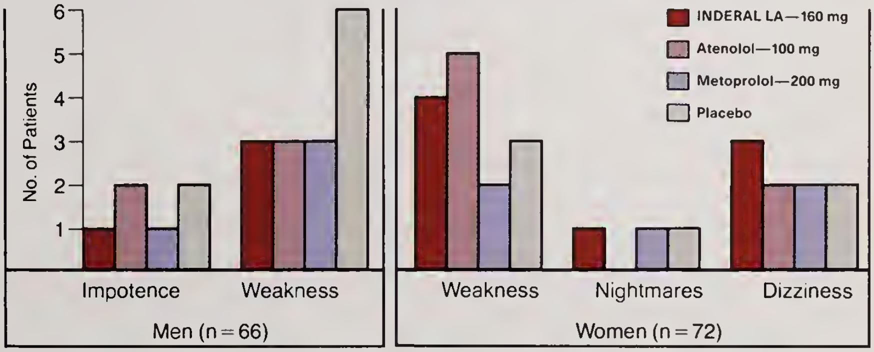

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As with all fixed-combination antihypertensives, INDERIDE LA is not indicated for the initial treatment of hypertension.

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Please turn page for brief summary of prescribing information.

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LONG ACTING CAPSULES

80 mg
120 mg
160 mg
*

ONCE-DAILY INDERIDE® LA

LONG ACTING CAPSULES

Each capsule contains propranolol HCl (INDERAL® LA), 80 mg, 120 mg, or 160 mg, and hydrochlorothiazide, 50 mg

80/50
120/50
160/50
*

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULARS.)*

INDERAL® LA Brand of PROPRANOLOL HYDROCHLORIDE **(Long Acting Capsules)**
INDERIDE® LA Brand of PROPRANOLOL HYDROCHLORIDE (INDERAL® LA) and HYDROCHLOROTHIAZIDE **(Long Acting Capsules)**
INDERAL LA and INDERIDE LA Capsules should not be considered simple mg-for-mg substitutes for INDERAL and INDERIDE Tablets. Please see package circulars

CONTRAINDICATIONS

Propranolol hydrochloride (INDERAL® LA): Propranolol is contraindicated in: 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol

Hydrochlorothiazide: Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs

WARNINGS

Propranolol hydrochloride (INDERAL® LA): CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following *abrupt* discontinuance of propranolol therapy Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

Hydrochlorothiazide: Thiazides should be used with caution in severe renal disease In patients with renal disease, thiazides may precipitate azotemia In patients with impaired renal function, cumulative effects of the drug may develop

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma

Thiazides may add to or potentiate the action of other antihypertensive drugs Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported

PRECAUTIONS

Propranolol hydrochloride (INDERAL® LA): GENERAL Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that propranolol may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

CLINICAL LABORATORY TESTS Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose There are no adequate and well-controlled studies in pregnant women Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

NURSING MOTHERS. Propranolol is excreted in human milk Caution should be exercised when propranolol is administered to a nursing mother

PEDIATRIC USE Safety and effectiveness in children have not been established

Hydrochlorothiazide: GENERAL Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely Hyponatremia, hypochloremic alkalosis, and hypokalemia Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids Medication such as digitalis may also influence serum electrolytes Warning signs irrespective of cause are Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather, appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening In actual salt depletion, appropriate replacement is the therapy of choice

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance

Calcium excretion is decreased by thiazides Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen Thiazides should be discontinued before carrying out tests for parathyroid function.

DRUG INTERACTIONS Thiazide drugs may increase the responsiveness to tubocurarine

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient Thiazides may decrease arterial responsiveness to norepinephrine This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use

PREGNANCY Pregnancy Category C Thiazides cross the placental barrier and appear in cord blood The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

NURSING MOTHERS Thiazides appear in human milk If use of the drug is deemed essential, the patient should stop nursing

PEDIATRIC USE Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Propranolol hydrochloride (INDERAL® LA): Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular Bradycardia, congestive heart failure; intensification of AV block, hypotension, paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium; and decreased performance on neuropsychometrics

Gastrointestinal. Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis; ischemic colitis

Allergic Pharyngitis and agranulocytosis, erythematous rash; fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory Bronchospasm.

Hematologic. Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous. Alopecia, LE-like reactions; psoriasiform rashes, dry eyes; male impotence; and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

Hydrochlorothiazide:
Gastrointestinal: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis, sialadenitis

Central Nervous System Dizziness, vertigo; paresthesias; headache; xanthopsia

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia

Cardiovascular. Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics)

Hypersensitivity Purpura, photosensitivity, rash; urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis), fever, respiratory distress, including pneumonitis, anaphylactic reactions

Other. Hyperglycemia, glycosuria, hyperuricemia, muscle spasm; weakness, restlessness, transient blurred vision

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn

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REFERENCE:

1. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily *Arch Intern Med* 1985;145 1321–1323

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MSMA Membership Update

MISSOURI STATE MEDICAL ASSOCIATION

It's natural to wonder "What's in it for me?"

Membership in the MSMA does include a number of benefits and services available only to MSMA members. From group rates on insurance plans to opportunities for political involvement, MSMA members can tap into a wide variety of resources. Each service has been selected for its particular advantages to Missouri physicians.

If you're a member, you owe it to yourself to look into these programs. If you're not a member, you should see what you're missing.

Benefits of MSMA Membership

Participation

1. You have the **right to vote** on issues before the MSMA, **to serve** on its commissions and committees, and **to serve** as an officer of the Association.
2. You can become a member of the **Missouri Medical Political Action Committee** and add your voice and influence to medico-political issues.
3. You have an avenue for **input into the legislative process** — both at home in Jefferson City, and nationally in Washington.
4. You can attend the **MSMA Annual Convention**, where C.M.E. programs and Association business bring physicians together from across Missouri.

Information

1. **MISSOURI MEDICINE** — the statewide journal of the Association — is the only forum of its kind in Missouri. Articles cover scientific topics, of course, but also discuss important social, economic and political issues of the day — written by Missouri authors.
2. **Patient information brochures** are available from the MSMA, covering topics like health care cost control, alternative health care plans, breast cancer treatments and DRGs.
3. Information and data from **Missouri's PRO,** the Missouri Patient Care Review Foundation, are available through your Association. In addition, six MSMA member physicians represent you on the board of the Foundation.
4. Each year, a **membership directory** is published in MISSOURI MEDICINE, providing you with a single source for members' and officers' addresses and telephone numbers.
5. **Practice management seminars** held during the year are a good way to sharpen your office operation — from appointment-making to bill-collecting.
6. Physicians on **hospital medical staffs** can obtain information and advice through the MSMA whenever they may have problems negotiating with the board of trustees or administrators of their institutions.
7. Questions on **medical-legal** issues? Through the MSMA, you have access to expert opinion and advice. You also have expert advice on questions of **medical ethics.**
8. Whenever you have questions or problems with **third-party payers** — Medicare, Medicaid or other insurers — you can get answers and solutions through your Association. You have access to advice and interpretation on rules and regulations, benefits and other complexities.

Physician Services

1. The **Physician Placement Service** is a free service that matches interested physicians with Missouri communities that need them.
2. The **Missouri State Medical Foundation,** through a dues assessment from MSMA members and other donations, helps deserving medical students to meet their financial obligations while they attend medical school.
3. A **public relations** program helps strengthen the relationship between physician and community. Help is also available to individual practices that wish to start their own public relations plans.
4. All **Continuing Medical Education** programs in Missouri — so important in this day and age — are accredited by the MSMA.
5. A **Physician Rehabilitation Program** helps physicians who are having life problems, including substance abuse, that prevent them from functioning at their best. The program helps them get the treatment they need to get them back in control and back in practice.

Group Benefits

1. You have access to a number of **insurance programs,** including the following:
   - Professional liability insurance
   - Personal disability income
   - Office overhead expense insurance
   - Accidental death & dismemberment insurance
   - Hospital indemnity plan
   - Major medical plan
   - Term life insurance plan
   - Workers' Compensation

   Group rates make many of these plans extra attractive.
2. You can join us on a number of **travel programs,** always different, always exciting, and always offering outstanding C.M.E. opportunities.
3. You have access to the services of an MSMA-endorsed **collection agency,** making bill collecting simpler for you — yet ethical and mindful of your reputation in the community.
4. To help you design and administer your own **retirement plan,** the MSMA has arranged with E.F. Hutton and Trust Consultants to provide complete retirement plan services to members. Expert assistance is available for plan review, design and administration.
5. You have access to **discounted office supplies,** furnishings and equipment through membership in MEGA, a group-purchasing agency.

Why I Belong to MSMA

H. Peter Ekern, M.D.
MSMA President

"Why am I a member of organized medicine?"

That is like asking, "Why do I look like I do?" I just do. Why am I a member? I just am.

This simple question should be answered better than that. However, it is not as easy a question as it might appear. Why does anyone join his professional organization? Had I chosen to be a minister, I would belong to the Ministerial Alliance. Had I chosen to be a professional football star, I would join the Players' Association. *Everyone* should support his professional group.

However, not every Missouri physician belongs to the MSMA, and I'm sure for many different reasons. The professors who nurtured us through medical school, our attendance at medicine-initiated quality assurance and hospital staff meetings and county society meetings are important in preparing the ground for the seed to belong to our professional association.

The tangible benefits of membership — the journals, the publications, the large library and literature searches, and insurance programs — are substantial; however, the intangible benefits are far more valuable to the physician and his patients. Among these are the Keough retirement plan, the private professional corporation, the ethical standards set by physicians — not lay people, medical education standards, legislative activities and legal battles.

I belong to organized medicine because I have seen what it has done to and for and through people I have known, and moved me to dare and accomplish things I would never have done on my own.

It is not the answer to all my problems, not a guarantee to wealth or favored status, but it gives me the faith and trust, the confidence and courage to face a world that is often beyond my control. ■

— H. Peter Ekern, M.D.

As chairman of the Missouri delegation to the AMA House of Delegates, I can attest to the strength and effectiveness of the AMA.

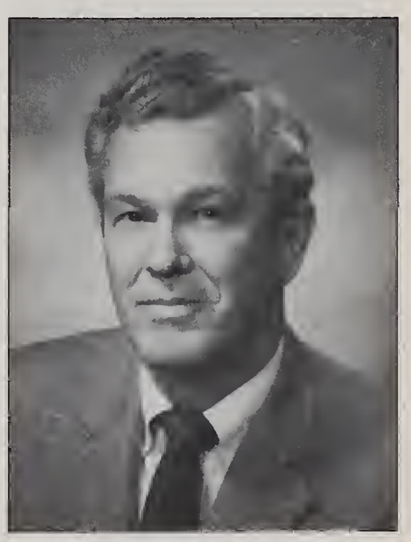
Many of the Association's detractors, however, frequently point out that, despite the AMA's record of positive action, fewer than half of the nation's physicians actually belong to the organization. Thus, in my view, one sure way to increase the influence of the AMA is to increase its membership. *Every* physician should belong to his local medical society, state association, and the AMA. In this way, the many opponents of medicine would have one less argument against organized medicine.

Non-members often object to various AMA policies, and use their objections as grounds for not supporting the Association. The truth of the matter is that the AMA is one of the most purely democratic organizations around.

Matters of policy are introduced into the House of Delegates and subjected to a rigorous and vigorous process of debate. When a decision is finally made, it is often a compromise. Really, it is no surprise that all AMA policies do not please all AMA members. After all, on any given issue, the policy reflects the opinion of the majority of members. The beauty of the process is that, in the end, the entire body agrees to abide by the decision of the majority. No matter how heated the debate, no matter what happens in future debates, the majority opinion rules.

So what does all this mean to Missouri physicians? Simply that if you want to be part of a group where your voice *can* be heard, organized medicine is that group. The AMA and your MSMA will go on speaking for you and your colleagues, whether or not you belong, but only by belonging can you share in the charting of medicine's course for the future. ■

— Francis X. Lieb, M.D.



Francis X. Lieb, M.D.
Chairman, Missouri Delegation to the AMA

Why I Belong to MSMA

Larry G. Piepergerdes, M.D.
MSMA President-Elect

Membership in the MSMA gives you access to a wide variety of professional services and programs. But, perhaps more important, it gives you unity — unity with your fellow physicians.

The power that this unity builds is also immeasurable. It means not only tangible group rates on insurance plans, for example, but also intangible *influence* and *authority* when it comes to health matters. Some physicians argue that professional associations such as ours have become too political. Perhaps this is true. But then realize that the legislature, public opinion, and our physician image have real, sometimes serious, effects on the way we can practice medicine in this state.

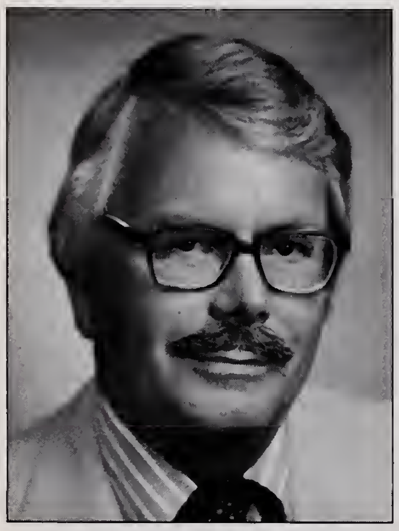
Through our MSMA, we can speak to these outside influences. We can build our image, talk to our legislators, sway public opinion. However, no one physician can do it alone. Together — that's a different story.

As a group, as members of this Association, we can be heard. Individual physicians can be heard.

As with any position of authority, there is a measure of responsibility attached to your membership. You are obligated to support your colleagues, and your Association, through your active participation in programs and activities. The payback, though, is that you are able to have a say in your future. You are no longer at the mercy of outside influences.

If you're a member already, do your duty for this Association. Talk to your colleagues who have not yet joined. For your own part, get more involved. There is ample opportunity in the MSMA. Your increased involvement will benefit the Association — and *you*. ■

— Larry G. Piepergerdes, M.D.



T. J. Cooper, M.D.
MSMA Council Chairman

It is generally conceded that health care delivery is at its lowest level of popularity than at any time in recent memory. Translated, that means that we physicians do not command the respect that we once enjoyed.

Perhaps it is because we speak with so many different voices. All too often, it is the uninformed opinion that is most readily available.

One would not dare attempt a difficult diagnostic or therapeutic procedure without full knowledge beforehand of the problems involved. Yet how often do we hear pious pronunciations from our colleagues — pronunciations based on little or no fact.

Only by active participation in organized medicine can we inform ourselves of all the facets of a complex problem, and then be able to speak in an informed manner. Perhaps if we would be as informed in our opinions as we are in our work, we would not misinform the public so frequently. How quickly one mistrusts any group that cannot keep its facts straight!

Join with us. Become better informed, and then you may find that indeed we can speak with one voice. Maybe then we can regain the respect we have lost. ■

— T. J. Cooper, M.D.

MSMA: Your Legislative Voice

Like it or not, it is a fact of life that the Missouri General Assembly determines, to a large degree, who can practice medicine in this state, and how medicine will be practiced.

Every year, as legislators begin considering the scores of bills before it, MSMA members and staff study the pending legislation. Each bill that has implications for Missouri patients and their physicians is then carefully followed through the legislative channels. Many warrant only cautious observation. Others require more aggressive management. In either case, the MSMA is able to supply needed input to the lawmakers, most of whom are non-physicians.

The history of medical legislation in Missouri has been remarkable for the great number of favorable measures passed. And in general, most of the issues opposed by the MSMA have gone down to defeat. This rather excellent outcome has been effected by dedicated work by members and staff. And the prognosis continues to be good.

The lesson to be learned from history? MSMA members — like you — can and do make a difference in the halls of the Capitol in Jefferson City. And MSMA membership offers a wealth of opportunities to get involved.

What follows is a brief summary of actions taken by the 1986 Missouri General Assembly.

WHAT PASSED

SB 470	(Child Abuse) — Deals primarily with penalties for intentionally filing false reports on Child Abuse Hotline.
SB 553	(Nursing Homes) — Extends the moratorium on building of additional nursing home beds until July, 1988.
SB 663	(Malpractice Legislation) — Changed medical malpractice statutes to set a $350,000 cap on non-economic damages for each defendant, permits structured awards on future damages of over $100,000, requires plaintiff to file an affidavit from an expert within 90 days of filing suit, modifies joint and several liability so defendant is liable only for any defendant of equal or lesser fault, requires juries to itemize awards, requires physicians in counties with a population of over 75,000 to carry a minimum of $500,000 insurance as a condition of hospital privileges, speeds up the Board of Healing Arts ability to suspend a physician's license, requires hospitals to report final disciplinary actions taken against a physician to the Board of Healing Arts.
HB 860	(Good Samaritan) — Extends Good Samaritan Law to licensed emergency medical technicians.
HB 1029	(Physicians — Felony) — Provides for automatic revocation of a physician's license if he/she is convicted of a felony or had his/her license revoked in another state for the same reason.
HB 1036	(Temporary Licenses) — Allows the Board of Healing Arts to issue temporary licenses to qualified physicians for the purpose of teaching or lecturing in the state.
HB 1125	(Alzheimer's Task Force) — Creates a Task Force on Alzheimer's Disease to coordinate a statewide system to address the problem.
HB 1162	(Surgical Centers) — Revises statutes dealing with ambulatory surgical centers to include birthing centers.
HB 1181	(Anatomical Gifts) — Requires each hospital to designate a person to inform the family of a potential donor of the availability of organ donations.
HB 1243	(Head/Spinal Injuries) — Establishes an information registry for data collection and needs assessment regarding head and spinal injuries. Physicians will be required to report head or spinal injuries to the hospital, which must report to the state.
HB 1333	(Optometry — Therapeutic Drugs) — Permits optometrists to use certain therapeutic drugs and remove superficial foreign objects.
HB 1596	(Abortions) — Provides that life begins at conception and unborns have all rights of other persons. Contains many other restrictions on abortions including prohibiting the use of any public funds, facilities or employees to perform or assist in an abortion which was not necessary to save the life of the mother.
HB 1610	(Teenage Pregnancy) — Establishes a "Task Force on Unwed Adolescent Sexual Activity and Pregnancy" to study and issue proposed solutions to the Legislature.

MSMA: Your Legislative Voice

WHAT DIDN'T PASS

SB 422	(Peer Review Confidentiality) — Would have weakened the medical peer review committee confidentiality law passed in 1985.
SB 533	(Social Workers) — Would have provided for the licensure of social workers and limited the practice to those so licensed.
SB 540	(Physician Assistants) — Would have provided for the registration of physician assistants to examine and treat under the supervision of a physician.
SB 582	(Physical Therapists) — Would have permitted physical therapists to practice independently instead of under the prescription of a physician.
SB 609	(Direct Nurse Reimbursement) — Would have provided for direct third-party reimbursement for registered nurses.
SB 636	(Dietitians) — Would have provided for the licensure of dietitians and limited the practice to those so licensed.
SB 695	(Family Practice Residencies) — Would have increased state funding for Family Practice Residency Programs.
HB 863	(Seat Belts) — Would have rescinded the auto seat belt law enacted in 1985.
SB 742	(Tort Reform) — Would have implemented many of the changes spelled out in the malpractice bill for overall tort reform.
HB 893	(Prescription Forms) — Would have required prescriptions for controlled substances to be written on triplicate forms purchased from the state.
HB 1031	(Uniform Information Act) — Would have placed lengthy and complicated language in the statutes regarding release of patient information.
HB 1065	(Occupational Therapists) — Would have provided for the licensure of occupational therapists and limited the practice to those so licensed.
HB 1386	(Respiratory Therapists) — Would have provided for the licensure of respiratory therapists and limited the practice to those so licensed.
HB 1415	(Lay Midwives) — Would have legalized the practice of lay midwifery in Missouri.

WHAT'S AHEAD

- **Lay Midwives** — As more and more family physicians and obstetricians announce they intend to stop delivering babies (especially in the rural areas), Legislators are faced with the dilemma of considering the legalization of practice by *lay* midwives who *will deliver* babies.
- **Expansion of Limited Licensed Practitioners** — Nurses can be expected to seek direct third-party reimbursement, physical therapists may pursue independent practice, chiropractors and others may try to expand their practice acts.
- **Licensure** — Almost a dozen allied health professions (i.e., respiratory therapists, dietitians, occupational therapists, etc.) will again try to obtain licensure status.
- **Family Practice Residencies** — Medicine will again try to secure additional funding for establishment of additional Family Practice Residencies.
- **Peer Review Confidentiality** — Efforts may again be made to weaken the confidentiality of medical peer review committees.
- **Medicaid** — MSMA intends to push aggressively for more equitable payment schedule in the Medicaid Program.

MSMA Involvement Opportunities

The MSMA has a lot to offer members who want to become more involved in their professional organization.

For example, there are 10 standing committees and commissions that consider a variety of sub-interests. They are charged with making more complete study of specific issues, for presentation to the Council and House of Delegates. Current committees and commissions are the Committee on Constitution and Bylaws, the Committee on Publication (journal), the Committee on Legislative Affairs, the Committee on Planning, the Committee on Physician Rehabilitation, the Commission on Public Affairs, the Commission on Medical Economics, Third Party Medicine and Governmental Relations, the Commission on Continuing Education and Health Manpower, the Commission on Medical-Legal Affairs, and the Commission on Interspecialty Medicine.

MISSOURI MEDICINE

Every monthly issue of MISSOURI MEDICINE presents an opportunity for members to report on their research, unique cases, and matters of special interest. The award-winning publication exists solely for Missouri medicine and Missouri physicians. It's a forum for idea exchange, an information clearinghouse, and a source for scientific study.

Annual Convention

Every year, there is the opportunity to meet with colleagues from around the state at the MSMA Annual Convention. This year's convention was held at the Pavilion Hotel in St. Louis. In 1987, the meeting will be April 2-5 at Tan-Tar-A, Lake of the Ozarks. Besides an outstanding scientific program and various specialty group meetings, the convention is the site of the annual House of Delegates meeting. MSMA members — delegates or not — may avail themselves of an excellent opportunity to see Association policymaking in the works. No other group offers the physicians of Missouri a similar meeting with these opportunities for professional exchange.

For physicians who wish to become involved in the political process, the MSMA has created a number of opportunities.

Key Contacts

The Key Contact Committee is a group of physicians who specialize in the personal touch with their legislators. Each week, these physicians receive an updating on current legislative issues. They are on the forefront of all medical legislative activity, contacting their lawmakers personally when necessary, and providing valuable input into legislative happenings.

PIP

Busy physicians (and what physician isn't busy?) can still become personally involved through the Physician Involvement Program. Every Wednesday during the Session, PIP physicians meet at MSMA headquarters for a briefing, then head for the Capitol to meet with lawmakers and view the Session. These visitations are highly effective as vehicles for *personal* discussion of the issues. Yet it only takes a day of your time.

MMPAC

Missouri medicine's political action arm, Missouri Medical Political Action Committee, is another important avenue for physician involvement. MMPAC is a way for physicians and their families to increase their influence and involvement in politics — from the campaigns through election. In addition to providing for selected campaign contributions, MMPAC provides medical families with instruction for becoming involved in actual campaigns. MMPAC members are also kept abreast of state and national happenings through a regular newsletter.

Interested? Contact the MSMA for information about any of these involvement opportunities in your Association.

Beginning in 1850, the Missouri State Medical Association has found solutions to the problems facing medicine and has represented Missouri physicians. Even at the MSMA's first organizational meeting, Missouri's pioneer doctors were concerned about Missourians' health care. At that meeting they committed themselves to controlling impure drugs, educating the blind and deaf and regulating physicians' education.

While few of those physicians could have foreseen the complexity of modern medicine, they did foresee the need for an organized, professional association that could grow to meet the needs of medicine, the public and the physicians of Missouri.

From a fledgling pioneer society, MSMA has grown to represent more than 6,700 physicians. Today the MSMA is the only organization with the influence and authority to speak for Missouri medicine as a whole — to the public, the government and the media. The MSMA is proud of its heritage and proud of its accomplishments.

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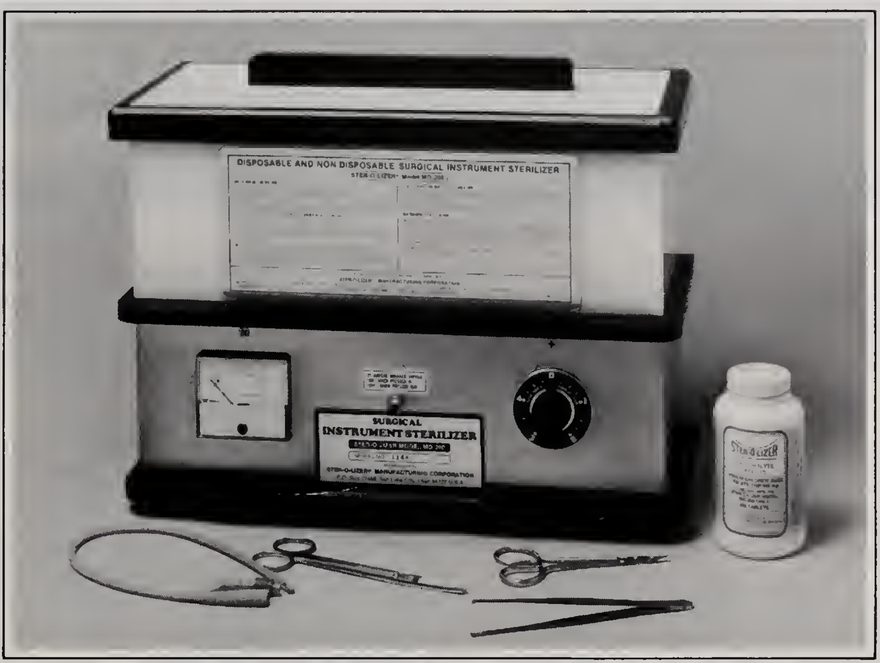
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PRACTICE MANAGEMENT

by George S. Conomikes

Editor's Note: *George S. Conomikes is president of Conomikes Associates, Inc., a medical practice consulting firm based in Marina del Rey, CA, with offices in Phoenix, AZ, and Dallas, TX. He has conducted practice management workshops on behalf of MSMA. This issue begins his monthly column on practice management.*

Patient Recall Systems

Most physicians are interested in having patients come back for their periodic re-evaluations. A recent HEW study of private practices indicated that 59% of all patient visits result in a scheduled follow-up. In many cases these are annual re-appointments; and in some cases they are semi-annual; in more urgent cases they are in frequencies that are monthly or quarterly.

One of the casual ways of dealing with patients regarding annual visits is to suggest that they call or come in on their birthday. Some people forget (After all, who wants to think about a doctor's appointment in conjunction with a birthday celebration?). Another problem is that many people may wish to come in on their birthday month, and that may be the month when the doctor may want to take two, three, or even four weeks of vacation. Therefore, we get a too-heavy load of these visits just before and just after the doctor takes his vacation.

Asking patients to call in three months or six months for that type of appointment also doesn't work well. Many patients forget. Other patients are anxious, and they call in advance of when they are supposed to come in.

There is another problem with scheduling patients far in advance. We've already indicated it is very easy for some patients to forget, even if you have given them a firm appointment. The other problem is: they may, on short notice, call and reschedule due to some other, more pressing business. When they call to reschedule the appointment, they generally do not want to wait a significant period of time and may be taking away appointment slots that should be saved for more urgent patient visits.

Another weakness in setting specific appointments far in advance is that the patient, for another or allied medical problem, may be in before the appointed date and the need for the previously established appointment time may be eliminated. Therefore, we have the potential of "no-shows" for such patients.

A further disadvantage of making appointments three, six and twelve months in advance is that it "locks" the doctor in. If you want to take a day off, or a few days off, you will have to call patients that are scheduled for those dates and reschedule them. This is not only costly, but can result in bad patient public relations.

Finally, some practices resort to telephoning patients as a reminder technique. This means that we have to have these names recorded in some sort of log which is quite expensive to maintain. When we telephone, what if the phone company tells us the phone is no longer in service? Does that mean the patient has moved? Is the phone disconnected? What if

Continued on page 761

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Tularemia

A Review

Charles R. Finley, Bette W. Hamilton, M.A., and Thomas R. Hamilton, M.D.
Kansas City, Missouri

Primarily a disease of animals, tularemia in humans is fairly prevalent in Missouri. Rates of occurrence in this state have been on the increase, and physicians should remain alert for signs and symptoms of this potentially lethal infection.

Many physicians consider tularemia a rare and exotic disease. However, this is not the case. Tularemia, a disease due to *Francisella tularensis,* is enzootic throughout the continental United States. It is most prevalent in two recognized regions of North America. Missouri is within one of these regions, entitled the "Ozark Plateau," which also includes Arkansas, Oklahoma, and Kansas. Arkansas led the nation with 65 reported cases in 1983, and Missouri ranked second with 51 cases.[1] Although the total number of cases in the United States has been steadily decreasing, Missouri's rate has continued to rise slowly every year since 1978.[1] Missouri has reported 20% of the cases over the past three decades.[2]

Tularemia is primarily a disease of animals. Rabbits and rodents are the major reservoirs, although many wild and domestic animals are susceptible (deer, birds, squirrels, raccoons, dogs, cats, horses, and sheep). Infection is transmitted from animal to animal by arthropod vectors such as ticks, deerflies, blackflies, and mosquitoes. The infected female tick serves as a major reservoir and transmits the bacteria directly to her offspring by transovarial infection. Most reported cases are acquired by the bite of an infected tick.

Infection in humans is most commonly incurred in one of several ways:

(1) by tick bites or their blood or feces,
(2) by biting flies, especially *Chrysops discalis* (deerflies),
(3) by contact with the skins, blood, or internal organs of infected animals (most commonly rabbits, squirrels, sheep, or birds),
(4) laboratory contact.[3]

Two types of tularemia, differentiated biochemically, are recognized in the United States: Jellison types A and B. Type A, which is most commonly tick-borne and rabbit associated, is highly virulent for humans with a 5% to 7% mortality in untreated cases. It ferments glycerol and produces citrulline ureidase. Type B is mosquito-or tick-borne and associated with disease in sheep or water-dwelling rodents, and contaminated water.Type B causes less severe disease in humans and is rarely fatal.

Tularemia occurs in six major forms: ulceroglandular, glandular, typhoidal, pneumonic, oropharyngeal, and oculoglandular. The type of infection is directly related to the route of exposure. Patients have been noted to show manifestations of more than one form concurrently.[4]

Typically a patient presents with a history of a tick bite, contact with wild animals, or outdoor exposure within the incubation period of one to 10 days. Less commonly, infection may occur through drinking contaminated water, inhaling infected dust or eating undercooked meat. The typical patient presents with chills, fever, malaise, anorexia, prostration, headache, swollen lymph nodes, and a nonproductive cough. About 10% of patients present with a nonpruritic maculopapular rash.[5] A primary ulcer at the site of the tick bite may be present and last four to seven weeks. Glandular and typhoidal forms do not necessarily present with an ulcer. Granulomatous nodules and plaques have been reported as sole manifestations.[6] Atypical pneumonia, ocular disease, and fever of undetermined origin are less common presentations that must be considered in the differential diagnosis.

Of the six forms, ulceroglandular disease is the most common, comprising about 70% to 87.5% of reported cases.[2] It is characterized by primary cutaneous ulceration and regional lymphadenopathy. This form of the disease follows inoculation of bacteria at a specific site. It is accompanied by the typical clinical manifestations listed above.

Glandular tularemia represents 3% to 14% of the reported cases.[2] Within a few days of exposure, the patient usually develops swollen, tender lymph nodes with a papule appearing at the site of inoculation. Necrosis, suppuration and ulceration ensue. Blood cultures are usually positive and agglutinins peak in the third week.[3] Caseating mediastinal lesions can mimic tuberculous adenitis and may be confused with bubonic plague or sporotrichosis. Convalescence may last three to six months.

In recent years three outbreaks of clinically mild tick-borne tularemia have been reported.[7, 8] The illnesses primarily occurred in children. The patients presented with fever, malaise and lymphadenopathy of the head and neck. Thirteen of 32 patients also had non-exudative pharyngitis. In these reports, environmental ticks and ticks on dogs in the households of patients were found to be infected with *Francisella tularensis* types A and B. Retrospective serologic studies indicated undiagnosed past infections in a number of individuals in the area. These studies point out that mild illnesses do occur. In children, particularly, a syndrome of fever, lymphadenopathy, and malaise may be the clinical presentation of tularemia.

Typhoidal tularemia, common in laboratory-acquired cases, represents 7.7% to 15.0% of the reported total.[2] It is characterized by severe systemic signs without obvious localized lymphadenopathy. Reports of ulcerative lesions of the mouth, pharynx, and intestine have been documented. The differential diagnosis must include typhoid fever, brucellosis, tuberculosis, and even sporotrichosis.[5] Hepatosplenomegaly is common, mortality is particularly high.

Tularemia must be entertained as a diagnosis in the case of atypical pneumonia. Pneumonic infections make up 7.7% to 12.7% of all tularemia.[2] Symptoms are the same as the typical case presentation with the addition of pleuritic chest pain. Usually there are no demonstrable organisms in the sputum, and the pneumonia is resistant to common drugs used in the treatment of bacterial pneumonias. Radiologic findings may show hilar lymphadenopathy, pleural effusions, pulmonary abscesses or bronchopneumonic infiltrates.[9] Occasionally this may be confused with *Legionella* pneumonia. Mortality is 1% in treated cases and 5% in untreated cases.[1]

Oropharyngeal tularemia makes up approximately 2% to 4.3%.[2, 10] Systemic signs and symptoms are not uncommon and patients may develop a noncharacteristic maculopapular rash. It is most common in children.[2] The differential includes follicular tonsillitis, fuso-spirochetal disease (Vincent's angina), streptococcal disease and typhoid fever.[11]

Oculoglandular tularemia represents 0.9% to 2.0% of cases.[2] Preauricular lymphadenopathy frequently accompanies the acute conjunctivitis. Blindness is reportedly an extremely rare occurrence. Other rare forms of tularemia include gastrointestinal and congenital. One case was reported in which tularemia had simulated an acute myocardial infarction.[12]

The etiologic agent of tularemia is *Francisella tularensis*, a small gram-negative, pleomorphic coccobacillus. These bacteria sometimes stain poorly with the Gram stain, and some authors recommend Giemsa stain to better demonstrate the organisms.[13] Rare encapsulated organisms have been identified.[14] *Francisella tularensis*, which requires cysteine for growth, is best isolated on glucose cysteine blood agar. This medium is not generally available in most hospital laboratories. However, several recently reported cases, as well as experience in our laboratory, indicate that *Francisella tularensis* can be isolated on routine laboratory media containing cysteine. These media have included chocolate agar supplemented with an XV enrichment that includes L-cysteine, cysteine hydrochloride, and Tryptocase soy broth 1.5% agar.[15] It cannot be grown on Thayer Martin medium. In view of this, in all instances where tularemia is possible, great care should be taken in specimen handling and in media selection.

Agglutination titers are helpful in confirming a diagnosis of tularemia. Antibodies to *Francisella tularensis* usually develop during the second week of infection, rise sharply during the following two to three weeks, and peak at four to six weeks. The antibody levels may remain elevated for years.[11] A single agglutination titer of 1:80 is generally considered diagnostic.[6] However, to firmly establish an etiologic diagnosis, it is necessary to do serial titers and demonstrate a four-fold rise. It is not unusual for titers to reach 1:2560 and higher.

Active infection and vaccination may both give rise to antibodies that cross react with *Brucella abortus* and *Brucella melitensis*. These titers are usually in low dilutions. *Francisella tularensis* cross reactions have also been reported to occur with *Proteus* OX-19.[16] Some authors consider these cross reactions rare while others disagree.[2]

Recently it has been reported that whole-blood lymphocyte stimulation (blast transformation) is helpful for the diagnosis of tularemia. However, these investigators noted that this test does not differentiate between current and past infections. In active infection the test becomes positive during the second week and the lymphocytes remain reactive for years. A drawback to this technique is that one week is required for its performance.

In the past a skin test employing killed organisms was used. This test is known as the Foshay antigen test. It tends to be positive earlier and persists longer than most serologic tests but can be falsely reactive in patients previously infected with *Brucella* species.[16] According to the World Health Organization, it is not suitable for routine diagnostic testing.[17]

Treatment is usually achieved with streptomycin (0.5 units intramuscularly every 12 hours for 10 days). Marked improvement is usually noted within 48 to 72 hours.[1] Chloramphenicol and tetracycline administration result in eradication of the acute illness, but the disease tends to recur.[1, 5, 17] One author reported successful treatment of pulmonary tularemia with erythromycin.[18] Several authors reported successful use of gentamycin (3.0 mg/kg/day IM) or kanamycin (15 mg/kg/day IM) in the treatment of pulmonary tularemia.[1, 6, 19] They suggested that gentamycin was preferable to streptomycin when the diagnosis of tularemia was not established.[19] Penicillin reportedly has no value.

Untreated patients have a mortality rate as high as 30%, depending upon the form of the disease. With the use of streptomycin and early detection, mortality is less than 1%. Untreated patients tend to have a relapsing course.[2] Tularemia meningitis has the worst prognosis untreated, and one case was reported in which the patient progressed to a stuporous condition following a treatment period of penicillin.[9]

This review article is intended to impress upon the physician the importance of early diagnosis and consideration of tularemia in the evaluation of many systemic illnesses. Tularemia should not be discounted as an uncommon illness.

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Reprints

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Leptospirosis

A 10-Year Experience

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Huntington, West Virginia

E. Dale Everett, M.D.
Columbia, Missouri

F. Thomas Satalowich, D.V.M., M.S.P.H.
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Eight cases of leptospirosis are reviewed, with attention to clinical presentation and subsequent management. This zoonotic illness should always be considered in the differential diagnosis of multisystemic febrile illness, especially in the face of a history of possible exposure.

Leptospirosis is a spirochetal zoonotic illness caused by more than 20 different serotypes of leptospira. Its natural reservoir includes many domestic and wild animals that excrete the organism in the urine. Man generally becomes a victim of leptospirosis when abraded skin or mucous membranes come in contact with the organism through the handling of animals, or more commonly, following ingestion or contact with contaminated water.[1, 2, 3] Leptospira are worldwide in distribution and occur in most of the United States. Missouri generally reports one or two new cases of leptospirosis annually. We believe that these reports represent a considerable underestimation of the number of cases occurring in Missouri, due to a failure to include leptospirosis in the differential diagnosis of acute febrile illnesses. This contention is supported by a report in 1977 from a single St. Louis hospital, where nine confirmed and 25 presumptive cases of leptospirosis were diagnosed in children during a period of 54 months.[4] We have reviewed our experience with leptospirosis at the University of Missouri to point out its salient features and to enhance the awareness of the practicing physicians in our state as to its occurrence.

Method

The charts of patients discharged between 1975-1985 from the University of Missouri Hospital and Clinics and the Harry S Truman Veterans Administration Hospital with the diagnosis of leptospirosis were reviewed. We utilized the Centers for Disease Control (CDC) definition of a confirmed or presumptive case. A confirmed case was defined as a patient who had an illness compatible with leptospirosis and a positive culture or a seroconversion from $< 1:50$ to 1:100 or greater, or a fourfold or greater change in agglutination titer between acute and convalescent serum specimens. A presumptive case was a patient with a compatible illness plus either a single titer of 1:200 or greater, or a positive slide agglutination test obtained after onset of symptoms.[5] During this period of time, the test utilized for screening serum for leptospiral antibodies was the slide agglutination test, which represented 12 serotypes of leptospira. Cultures, when performed, were done on Fletcher's medium.

Results

Demograhics and Epidemiology

Seven male and one female patient, all Caucasians, with an age range of 23 to 69 years, were found. One was a confirmed case and six were presumptive by CDC criteria. One additional patient with a compatible illness and spirochetes seen in peripheral blood was also included, but technically did not meet the CDC definition. All were previously healthy except one patient who was known to abuse alcohol. Initial agglutination titers were positive at a titer ranging from 1:400 to 1:6400 in five patients. In none of these was a convalescent specimen obtained after the initial positive test. They were, therefore, classified as presumptive. One patient had a positive slide agglutination test, but records of his microdilution titers were lost. The remaining patient had initially negative serology results three weeks into the illness, but when the test was repeated five weeks after onset, titers had risen to 1:6400. Two patients had had urine cultures grown on Fletcher's medium, but none was positive.

Four patients lived in larger cities and four in smaller towns. The counties of residence included Boone, Pettis, Crawford, Polk, Jackson and Cooper. Four patients had outdoor jobs, and one was a teacher with a specialty in agriculture. The remaining three were retired or unemployed. A significant exposure history was identified in three patients. Two had been exposed to water that was reported to be "contaminated." The third lived in a rat-infested apartment. The remaining five patients had had exposures to animals or stagnant water, but the exposures could not be conclusively linked to their illness. There was a clustering of cases in the summer: three in July, and one each in June, August, and September. The remaining two were in January and March. The winter case was possibly acquired from skinning squirrels one week prior to becoming ill.

Clinical Observations

Headache was a universal symptom, seen in all eight patients and typically described as severe. In four cases, headache was the chief complaint. Photophobia was reported by four patients, occurring several days after onset of the headache. After headaches, fever and chills were the most common symptoms and occurred in seven of the eight patients. These typically appeared early in the illness and in three cases were the chief complaints. Fever was substantial, averaging 39.3° C. In four patients, the temperature reached as high as 40° C.

Nausea, usually associated with vomiting, occurred in all but one patient, and mild abdominal pain was present in five. Two patients had splenomegaly and one had hepatomegaly. Obvious icterus was present in three patients. Other signs or symptoms, occurring in one or two patients, included lymphadenopathy, maculopapular rashes, pleuritic chest pain, and arthralgias.

Laboratory Findings

Routine laboratory studies were largely non-specific. White blood cell counts ranged between 3,100 and 14,000/dl with only one showing a shift to the left. Hemoglobin values ranged between 12 g and 14 g. Urinalysis was abnormal in four of seven patients, showing sterile pyuria and proteinuria. In addition, granular and white blood cells casts and red blood cells were seen in one. Transaminases and alkaline phosphatase levels were minimally elevated in six of the patients. Bilirubin was elevated in three patients, the most striking being one patient whose bilirubin level peaked at 55 mg/dl. Creatine kinase (CK) was measured in only three patients, two of whom had normal levels. One patient had an elevation to 1540 units. Renal function disturbance was noted in three patients, manifested as mildly elevated BUN and creatinine. One patient went on to develop acute renal failure. Lumbar punctures were carried out in all eight patients. Cerebrospinal fluid analysis disclosed pleocytosis in all eight patients, ranging from 14-652 cells/mm,^{3} with a slight predominance of lymphocytic cells. Spinal fluid protein was elevated in six patients, but glucose levels were normal in all patients.

Case Reports

Two illustrative cases are presented to demonstrate the wide spectrum of illness that leptospirosis may cause.

Case 1: A 32-year-old man from Kansas City with a previous history of schizoaffective disorder and drug abuse was admitted with a one-week history of nausea that progressed to anorexia and vomiting. He then experienced myalgias, fever and shaking chills, severe headache, and photophobia. He was seen by a local physician who prescribed indomethacin for his myalgias. A CK measurement at the time was 1540 units. Two days prior to admission he developed dark urine, jaundice, and constant, non-localized abdominal pains.

Social history disclosed that he lived by himself under extremely poor sanitary conditions with rats running freely in his apartment. At the time of admission, he was febrile to 38.0° C, had a 12 cm liver and was jaundiced. His bilirubin level later peaked at 55.7 mg/dl. A spinal fluid examination showed white cells at 46/dl with 64% lymphocytes. He was initially treated with penicillin, 12 million units daily, but when leptospiral serology returned positive for all four pools, the antibiotic was discontinued.

On the 10th day of his illness, the patient developed renal failure and an elevated serum potassium level of 6.9 meq/dl. A clinical diagnosis of acute tubular necrosis and interstitial nephritis was rendered, and he was begun on hemodialysis. A coagulopathy developed, manifested by multiple large ecchymoses and bleeding from his gastrointestinal tract. He required fresh frozen plasma and eight units of blood. Later he bled into his thigh, resulting in a compression neuropathy and weaknesses in his left leg.

The patient gradually improved, but when discharged after 17 days of hospitalization, still had residual problems in walking.

Case 2: A 39-year-old man, a laborer for the state highway department, was admitted with a history of exposure to water from a stagnant creek. He claimed to be a noodler, i.e., he caught fish by hand. Several other people in his town had developed fevers after swimming in the same creek, and some of them had been hospitalized.

Three weeks prior to admission, the patient developed generalized headache, malaise, chills and a fever to 40° C. He was admitted to the local hospital, where he was found to have mildly elevated liver enzyme levels, but otherwise uniformly normal findings. He was treated with tobramycin and cefazolin and after improvement was discharged an oral cephalexin.

On the eighth day of illness he returned to the hospital with complaints of headache, photophobia, and nausea. A spinal tap showed 652 WBC/dl with 78% lymphocytes. The clinical impression was viral meningitis, and no antibiotics were given.

He continued to have malaise and low-grade fevers and was then referred to the University of Missouri-Columbia. When seen three weeks after his first symptoms, he had a normal physical examination, but CSF analysis showed 202 WBC/dl with 96% lymphocytes. A clinical diagnosis of leptospirosis was suspected, but serology was initially negative. When seen as an outpatient five weeks after onset of illness, he was asymptomatic. A repeat serology for leptospiral agglutinins was positive; 1:6400 at that time.

Discussion

Leptospirosis is uncommonly reported in Missouri, and we believe it is an underdiagnosed illness. In a 10-year period from 1975-1985, only 22 cases were reported to the Missouri Division of Health, 19 of which were from counties located north of the Missouri River or in the two urban areas of St. Louis and Kansas City. Of the one confirmed and seven presumptive cases seen in our hospital during the same period, leptospirosis was the primary diagnosis by the referring or attending physician in only two of the cases.

From our review, it is clear that leptospirosis is a multisystem disease with protean manifestations, most of which are non-specific, e.g. headache, fever, malaise, nausea, and vomiting. Full blown "Weil's disease," an acute infectious illness with splenomegaly, jaundice and nephritis,[6] is the exception rather than the rule. Leptospirosis is characteristically a biphasic disease with what appears to be a spontaneous recovery after five to seven days. This improvement, however, may soon be followed by new symptoms around day 7 to 10 as the patient enters the second phase. This phase is aseptic meningitis, dominated by the body's immune response to the disease. This biphasic character of the illness when seen in connection with symptoms found in Table 1 should lead to a presumptive diagnosis of leptospirosis. The biphasic pattern, however, is not seen uniformly, particularly if the patient develops icteric leptospirosis. Of our eight patients, only three had this classic presentation. Further, patients who have traveled outside Missouri may have some other illness, such as relapsing fever, Colorado tick fever, or dengue, which also may have a biphasic pattern.

The most commonly missed diagnosis in our cases was viral aseptic meningitis. Not even with a fully developed Weil's syndrome is the diagnosis always thought of, as demonstrated by our patient in Case 1, who was evaluated for obstructive biliary disease before a consultant suggested leptospirosis as the probable cause. The differential diagnosis in Weil's syndrome includes viral hepatitis and obstructive biliary disease. However, high bilirubin in the face of only mildly elevated alkaline phosphatase and coinciding renal abnormalities should suggest leptospirosis. An elevated CK level can help distinguish leptospirosis from viral hepatitis. Elevated CK has been reported in as many as 47% of patients with leptospirosis[7] and was seen in one of three of our patients in whom it was measured.

Diagnosis can be made either by isolating the organisms or by showing presence of significant antibody titers. As demonstrated by this and other reviews,[8, 9] routine laboratory tests are usually not helpful. Leptospires can be isolated from blood or urine by using special media such as Fletcher's medium. Such cultures should be done during the first phase, when the patient is septic. During the second phase, spirochetes can no longer be recovered from the blood. However, it is still worthwhile to obtain a culture from the urine since leptospires can occasionally be found in the urine as late as one month into the illness. Leptospira grow slowly even on selective media and may take several weeks to become manifest in culture.

The diagnosis is usually established by serologic testing. An initial screening can be performed with the macroscopic slide agglutination method using pools of the most common serotypes. This test can be performed by most reference laboratories. Positive tests are confirmed by the microscopic agglutination

TABLE I

Symptoms and Signs in Eight Patients With Leptospirosis

	% of Patients		*% of Patients*
Headache	100	Rash	38
Meningitis	100	Jaundice	38
Chills	88	Biphasic Illness	38
Nausea	88	Mental Status Changes	38
Vomiting	75	Splenomegaly	25
Abdominal Pain/Tenderness	63	Cough	25
Lymphadenopathy	63	Chest Pains	25
Photophobia	50	Arthralgia	25
Myalgias	50	Pharyngeal Injection	25

test, which is more specific and gives a quantitative measure of the antibody levels. Agglutinins generally appear about day 6 to 12 of illness, but do not reach their peak until weeks 3 or 4. An initial negative test should therefore be followed by convalescent serologic studies two to four weeks later, and perhaps as late as six weeks following the illness.

Even though leptospirosis frequently is a benign disease with a spontaneous recovery, it is important to establish the correct diagnosis. About 10% of patients will go on to develop the icteric form of the disease. If the diagnosis is made early, in the first four days of illness, antibiotic therapy can reduce the duration of fever and the risk of developing complications.[10] Several antibiotics, including penicillins, cephalosporins, and erythromycin, have been reported to be effective,[11] but the drug of choice is doxycycline in a dose of 100 mg twice a day.[10] Children under 8 years of age can be treated with parenteral penicillin G 200,000-250,000 units/kg/day.[12]

Furthermore, in the second non-septic phase, a correct diagnosis is important, even though antibiotics will no longer influence the outcome. Multisystemic febrile illnesses can lead to expensive medical evaluations that can be avoided if the proper diagnosis is established. When a common source of infection is present, such as water contaminated by cattle, considerable morbidity can be avoided if the source is identified. This is illustrated by our patient in Case 2, who knew of several other people who had been hospitalized after being exposed to water from the same creek.

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Pediatrics, Hemophilia and AIDS

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Hemophiliac children who contract AIDS from contaminated blood products face unique social problems, especially in school. Physicians are in a position to help educate patients and the public as to real and perceived dangers of the disease.

The quality of life of hemophiliac patients has improved greatly in the past 20 years due to the use of blood clotting factor VIII concentrates. Unfortunately, administration of this blood product has been associated with transmission of the hepatitis B virus and now the human T cell lymphotropic virus type III (HTLV-III), which causes the acquired immunodeficiency syndrome (AIDS). Hemophiliacs comprise approximately 1% of the patients with AIDS. Twenty-six percent of hemophiliacs with AIDS are in the pediatric age group.[1] Sexual partners of hemophiliacs are at risk for disease transmission via sexual contact.[2] Further, children born to mothers who contract AIDS are at risk for the disease.

Seroconversion for HTLV-III antibodies in patients with hemophilia began to be detected in 1979. Follow-up evaluation of hemophiliacs who had been seropositive for more than three years revealed lymphadenopathy in 70%.[3] The number of these patients who will go on to develop AIDS is not clear. The maximum incidence of AIDS among hemophiliacs through June, 1985, occurred in a three-month period beginning January, 1984,[1] and has since declined.

Similar to the geographic distribution of AIDS patients in general,[4] the cases of AIDS in hemophiliacs occur in highest number in New York and California. The midwestern states have had relatively few cases.[1, 5] The case presented here originated in Missouri, where two other cases of hemophiliacs with AIDS have been reported.

In addition to their medical problems, children or adolescents with hemophilia and HTLV-III antibody experience major social problems in dealing with this condition. The basic developmental tasks of children and adolescents — attending school, learning socialization skills, gaining peer acceptance and establishing identity — are interfered with when AIDS is diagnosed. In adolescent patients with HTLV-III antibody, discussion of sexual responsibility and prevention of virus spread is necessary.

Case Report

H.H. is a 16-year-old white boy with severe hemophilia A (factor VIII levels less than 1%) and recurrent hemarthroses controlled with factor VIII infusions. At the time of examination, he was noted to have lymph node enlargement and persistent otitis media. His 18-year-old brother, M.H., had just died of AIDS. M.H. also had severe hemophilia A, recurrent hemarthroses requiring administration of factor VIII, and positive hepatitis B surface and core antibody. After M.H.'s diagnosis of AIDS and pneumocystis carinii pneumonia, he improved sufficiently to permit discharge after six weeks. Four weeks later, however, he was readmitted with cryptococcal meningitis and recurrence of pneumonia, and died.

Physical examination of H.H. initially revealed perforation of the left tympanic membrane with drainage, and right axillary adenopathy. Three months later enlarged anterior cervical, axillary, inguinal and right posterior cervical lymph nodes were present. Laboratory evaluation included: hemoglobin 13.6 gm/dl, white blood cells 5100/mm^3 with segmented neutrophils 35%, lymphocytes 50%, mononuclear cells 9%, eosinophils 6%, platelets 223,000/dl, OKT_{4A} 34.9%, OKT_8 46.1%, T_4/T_8 ratio of 0.75, HTLV-III antibody positive. He had been tested positive for hepatitis B surface and core antibody three years prior.

Six months after the onset of lymph node enlargement, his lymphadenopathy had resolved and no infections had occurred. Blood count revealed hemoglobin 15.4 gm/dl, white blood cells 5700/mm^3 with segmented neutrophils 44%, lymphocytes 46%, mononuclear cells 5%, eosinophils 5%, and platelets 237,000/mm^3.

During this sixth-month period, sociological problems developed. The patient moved to another state but continued to receive medical care at The Children's Mercy Hospital. Knowledge of his brother's AIDS and the fact that he likely had AIDS related complex (ARC) became known to persons in his new community.

While no complaints from parents of other children had been filed, the school board became concerned about the presence of a person with AIDS in the classroom. School officials sought advice from two community physicians, who were without benefit of the patient's medical records or a physical examination. A label of AIDS was assigned to the patient. Homebound instruction was required of him, with the following options: "a homebound teacher, a two-way telephone link directly into the classroom or the videotaping of the classes." (*Post Tribune*, Hobart, Ind., Nov. 22, 1985.)

Though AIDS has not been transmitted through casual contact, the school adopted a policy that states, "When fully considered, it appears clear that the known ways of transmitting AIDS do occur in the normal school environment through normal school contacts." (*Post Tribune,* Hobart, Ind., Nov. 24, 1985.)

Discussion

Our patients demonstrate a number of important aspects of the spectrum of the acquired immunodeficiency syndrome. On one end of the continuum is the actual diagnosis of AIDS. These patients die, usually within two years of diagnosis, of opportunistic infection or malignancy. At the other end of the spectrum are the individuals who are in risk groups for developing AIDS but who have no symptoms or signs of the disease. They are concerned about their own welfare, about their loved ones, about their friends and work colleagues, and about the public in general. Between these opposing poles are people with ARC. These individuals do not have AIDS. They are not dying. They test positive for antibodies to the HTLV-III virus. They do have immunodeficiency in that their T helper cell to suppressor cell ratio may be inverted, their immunoglobulin levels may be abnormal, and leukopenia or lymphopenia may be present. In addition, they have one or more of the following signs and symptoms without known cause: palpable lymphadenopathy involving two or more extrainguinal sites of at least three months' duration, weight loss of 10% or more of body weight of at least one month's duration, fatigue of at least one month's duration, fever greater than 39°C of at least one month's duration, or diarrhea lasting longer than two weeks.[6] The risk of these patients' developing actual AIDS is not yet known. This group of patients has the same concerns as those symptom-free people in high-risk groups, but their fears are now more acutely focused. The public, their friends, and even loved ones have become concerned that they will acquire AIDS not only by association with persons who have AIDS, but those with ARC and those in high-risk groups. The pediatrician is in a unique position to educate parents, adolescents, public officials — especially school officials, youth organizations (e.g. camping groups) and other health care providers.

There are 15,172 cases of AIDS already reported, and the number has been growing at more than 600 per month over the past eight months.[7] The overwhelming number of cases has been in homosexual men and intravenous drug abusers. In the 204 cases of AIDS in children, there appear to be two groups of concern.[8] Perinatal acquisition of HTLV-III causes 75% of childhood AIDS and blood product transmission causes 19% of childhood AIDS. Children who have received a blood transfusion and children with hemophilia treated with contaminated factor concentrates are among those who have been exposed to the virus in blood products.

Screening of blood donors for HTLV-III antibodies should make what was already an extremely small risk of blood transfusion transmission even smaller. The directed donation of blood to specified recipients is not necessary and will be counterproductive. A brief explanation of the screening process and discussion of the real risks and benefits of blood transfusion usually resolve family and patient fears. Indiscriminant use of blood products should be avoided.

Blood donations for factor concentrate for hemophiliac patients are pooled and represent a much larger risk of spread of infectious diseases, including AIDS. Fortuitously, when AIDS was discovered, manufacturers of factor concentrates had been developing a process of heat treatment of the pooled concentrates in order to lower the risk of acquiring hepatitis. It has been shown conclusively that HTLV-III is also killed by this heat treatment process. Therefore, newly diagnosed hemophiliacs or those who received only heat-treated concentrate may not be in a high-risk category. Unfortunately, all hemophiliacs treated with non-heat-treated factor concentrates after 1978 and before 1985 are at risk of developing AIDS. Studies have shown that approximately 75% of such hemophiliacs are positive for HTLV-III antibodies.[3, 7] At our institution approximately 20% of these patients have developed ARC. However, as of December, 1985, only 132 hemophiliacs throughout the entire United States have been reported to have AIDS. Of this group, only 27 of the 132 (20%) have been younger than 20 years of age, according to G. McGrady, Centers for Disease Control (personal communication Dec. 1985). Because of the efficacy of the heat treatment process and the need of hemophiliacs for factor replacement, the National Hemophilia Foundation urges that factor concentrates not be withheld.[9] Prompt treatment of trauma or bleeding episodes in hemophiliacs with heat-treated factor concentrates is still the treatment of choice.

The major problem concerns the large number of hemophiliacs at risk, those positive for HTLV-III antibody, and those with ARC. These patients are either asymptomatic or have nondisabling signs or symptoms. There has not been a single reported case of a person contracting this disease through casual, social contact or from family members who were not sexual partners. There is, however, a definite risk of sexual transmission of this disease via sexually active adolescents. This is a venereal disease and should be taught as such.

Discriminating choice of a sexual partner and the use of condoms are the best measures available for protection. Spermicidal products may be helpful as an adjunct. Our center has begun sexual counseling of our adolescent and adult hemophiliacs. However, the responsibility for protection cannot be placed solely on any single adolescent. Teenagers' spontaneous nature and lack of experience may lead to an inability to broach the subject of the use of condoms, let alone risk of AIDS. Therefore, all children of sufficient age or maturation to be sexually active must be educated about risks and methods of protection. To be effective in those known to be sexually active, this education must be specific and concrete, providing information about where to obtain condoms, instruction in their use and encouragement to use them if sexually active.[10]

Children, like our patient, should not be prohibited from attending school or isolated and ostracized from the community.[11, 12] It appears that many of these children will never develop AIDS. Those who do may not do so for years. We must continue to assist these children with the tasks of growing up physically, academically and socially. They should be encouraged to participate in the activities of their peers both in and out of school.

The exception to insistence on school attendance is the child who is known to be HTLV-III positive, is not mature enough to control bodily functions, or who may bite other children. These children should not be allowed to attend day care centers or school until adequate behavior control has been established.

Health care workers and parents have the potential to be infected with HTLV-III through exposure to blood and body secretions of patients. The only health care workers without risk factors of their own who have contracted ARC or AIDS from a patient have been infected via a skin puncture by a contaminated needle. Routine nursing or medical care has not been reported to result in transmission of the virus. Certain precautions are advisable, including blood-handling and enteric precautions with appropriate labeling of blood specimens. Careful disposal of needles and other contaminated equipment should be carried out. Reusable equipment, surfaces and bedding contaminated with blood should be cleaned with a dilute bleach solution (1:10). In order to promote strict compliance with precautions, housekeeping personnel and personnel in areas of the hospital to which the patient may travel (e.g. operating room, radiology department) should be notified of the patient's underlying illness. Gloves are recommended only during phlebotomy procedures and when handling body secretions. Other isolation procedures result only in further alienation of patients at a time when they need more support and care.

Finally, it should be remembered that most persons infected with HTLV-III develop antibodies to the virus and remain well. National organizations including the Centers for Communicable Diseases, the American Academy of Pediatrics, and the National Hemophilia Foundation have published guidelines for dealing with children exposed to HTLV-III. For details these recommendations can be consulted.[8, 9, 13] In specific cases involving children with hemophilia, the regional hemophilia center can serve as a willing source of information and expertise.

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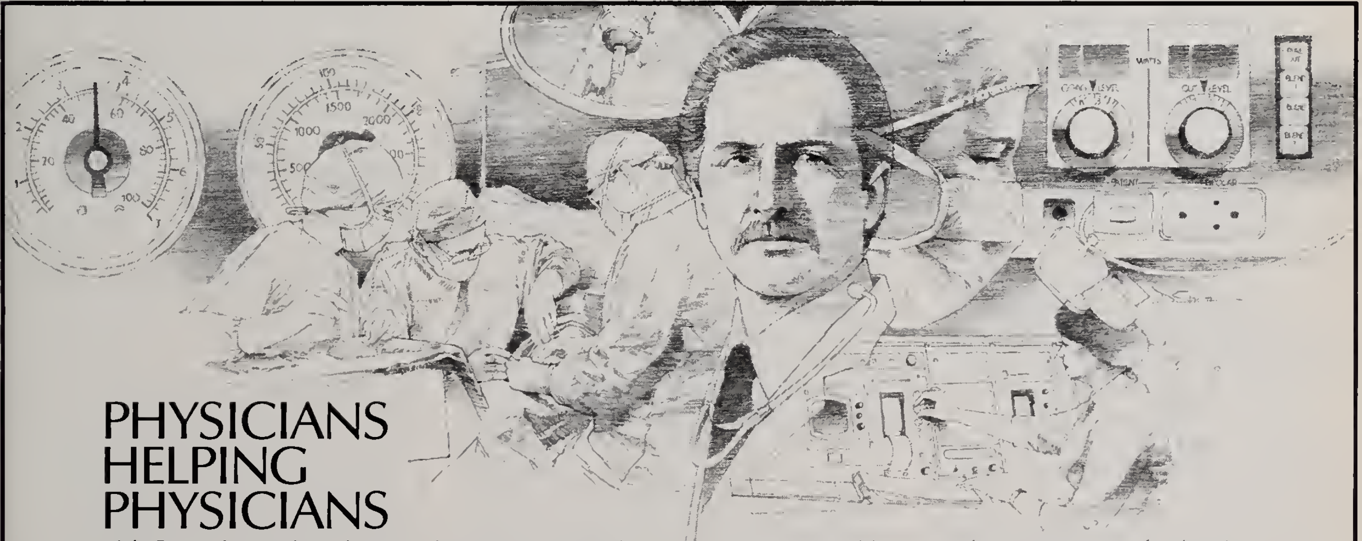

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The University of Missouri-Columbia

- **Philip Anderson, M.D.,** professor and chief of dermatology, is on the American Academy of Dermatology Board of Directors.

- **Karen Bennett, Ph.D.,** joined the Department of Microbiology this summer as an assistant professor. She will study basic developmental biology of the nematode. **Robert Conway, M.D.,** joined the Department of Physical Medicine and Rehabilitation this summer as a clinical assistant professor. He just completed a residency at Ohio State University.

- **Michael Cooperstock, M.D.,** associate professor of child health, recently gave Grand Rounds and participated in a problems conference at the University of Michigan.

- **James Dexter, M.D.,** professor and chairman of neurology and director of UMC's Clinical Neurophysiology Laboratory, is being honored by two major professional organizations. This summer he was elected president of the American Association for the Study of Headache, a 750-member group. He was also appointed by Governor John Ashcroft to the Governor's Task Force on Alzheimer's Disease and Related Disorders.

- **E. Dale Everett, M.D.,** professor of medicine, was awarded the department's "Outstanding Teacher Award" for 1985-1986.

- **Richard Finkelstein, Ph.D.,** professor and chairman of microbiology, has recently attended several national and international professional conferences, including the European Molecular Biology Organization Conference in Dublin, Ireland and a meeting of the Association of Medical Microbiology Chairmen in San Juan, Puerto Rico.

- **Charles Gehrke, Ph.D.,** professor of biochemistry and director of interdisciplinary chromatography, is being recognized as 1986's outstanding chemist in the ten-state Midwest region of the American Chemical Society. Dr. Gehrke will accept the $2,000 award and a bronze medallion at the society's regional conference in Kansas City this month. Dr. Gehrke and **Kenneth Kuo,** senior research chemist, recently gave presentations at Paris' Jacques Monod Institute and were symposium speakers at the Third International Conference on Human Tumor Marker at the University of Naples, Italy.

- **Herbert Goldberg, Ph.D.,** professor of microbiology, organized the first Patent Development and Biotechnology Transfer Program for Academic Health Centers which brought participants to UMC from across US and Canada this summer.

- **Helmut Haibach, M.D.,** associate professor of pathology, was recently appointed by Governor John Ashcroft to a two-year term on the Missouri Genetics Advisory Committee.

- **Richard Holmes, M.D.,** professor and chief of nuclear medicine, gained permission earlier this year from the Food and Drug Administration to begin testing a new radioactive drug on humans. Samarium 153-EDTMP ultimately may reduce pain and improve quality of life for bone cancer patients.

- **Carl Ide, M.D.,** professor of ophthalmology, recently travelled to Innsbruck, Austria, to present a talk to the Austrian Ophthalmological Society.

- **Paul Kaplan, M.D.,** a renowned professor of rehabilitation medicine has joined UMC as chairman of the Department of Physical Medicine and Rehabilitation. Formerly a professor of rehabilitation medicine at Northwestern University, Dr. Kaplan will fill the post recently occupied by interim chairman **Robert Frank, Ph.D.,** assistant professor. Dr. Frank will continue as vice-chairman of the department.

- **Zuhdi Lababidi, M.D.,** associate professor of child health, hosted the Midwest Pediatric Cardiology Society Annual Meeting at UMC this September. Dr. Lababidi, who is president of the Society, led the group of top pediatric cardiologists in discussions of recent research.

- **Glynda V. Maxam,** fourth-year medical student at UMC, received one of 34 national fellowships from the National Fund for Medical Education in 1986. She won the award from a field of applicants from 67 schools of medicine and three schools of osteopathy in 23 states. The SmithKline Beckman Medical Perspectives Fellowship is helping fund her research of chronic diseases among prison populations in Great Britain and the United States. Maxam works with **Bruce Harry, M.D.,** assistant professor of psychiatry on this research.

- Ms. Ruth McCown, secretary to **Hugh Stephenson, M.D.,** professor of surgery and chief of staff at the University Hospital, recently retired after 33 years. More than 350 people attended a reception in her honor.

- **Richard Oliver, Ph.D.,** assistant professor of health related professions has been named director of the School of Health Related Professions. He has been interim director for the past year. The School, established in 1978, is a school within the School of Medicine covering such degree programs as Clinical Laboratory Sciences, Communicative Disorders, Health Services Management, Radiologic Sciences, Occupational Therapy, Physical Therapy and Respiratory Therapy.

- Proceeds from the **Holiday Basketball Tournament** next month at the Kemper Arena in Kansas City will go to benefit UMC's Multipurpose Arthritis Center. The December 28-29 tournament between the University of Missouri-Columbia, University of Alabama, University of Pennsylvania and Oral Roberts University is sponsored by the Businessmen's Assurance Company of Kansas City.

University of Missouri-Kansas City

- UMKC School of Medicine's annual Year-1 convocation Nov. 9 will be highlighted with keynote speaker **Jack L. Titus, M.D., Ph.D.** The event each year welcomes first-year medical students and their parents. Dr. Titus is the William L. Moody Jr. Professor, and chairman of the Department of Pathology at Baylor College of Medicine.

- **Marjorie Sirridge, M.D.,** Assistant Dean for the Council on Evaluation at UMKC School of Medicine, was one of seven women executives from around the world to participate in a delegation to Africa. The group, which departed

Sept. 22 for Ethiopia and Kenya, visited the most significant famine/recovery areas, documented progress and surveyed current needs and programs. The trip was sponsored by *Savvy* magazine and World Vision, and was kicked off with an African update report by Sen. Nancy Landon Kassebaum at a Washington, D.C. luncheon.

■ As president of the American College of Obstetricians and Gynecologists (ACOG), **Harry S. Jonas, M.D.,** Dean of UMKC School of Medicine, is attending ACOG district meetings around the world. His destinations include Ireland, Hawaii, Bermuda, Puerto Rico, Winnipeg, Canada, and Little Rock, Ark. In addition, he has been called upon by the U.S. Congress, The "Today" show, *Glamour* magazine, and other prominent groups to comment on current OB/Gyn issues.

■ **W. Ray Snider, M.D.,** Associate Dean of UMKC School of Medicine, is one of the instrumental organizers of the First Beijing International Conference on General Surgery Nov. 3-6, 1986. The conference is sponsored by the China association for Science and Technology and co-sponsored by the China Surgical Association, Harvard Medical School, UMKC School of Medicine, and the University of Texas Medical Branch-Galveston.

■ **Chris Sirridge, M.D.,** docent and assistant professor of Medicine at UMKC School of Medicine, recently was named regional vice president of the Cleveland Clinic Foundation Alumni Association.

■ **William C. Roberts, M.D.,** chief of the Pathology Branch of the National Heart, Lung, and Blood Institute, National Institutes of Health, recently made a presentation at UMKC School of Medicine as the Stanley Reitman, M.D. Memorial Lecturer. Dr. Roberts spoke on "Coronary Artery Disease: The Quantitative Approach and Its Clinical Usefulness." Dr. Stanley Reitman was a strong supporter of the school and an early president of the St. Louis Friends of the UMKC School of Medicine, a parents support group.

■ **J. Willis Hurst, M.D.,** recently made a presentation as the Western Missouri Friends of UMKC School of Medicine Lecturer. Dr. Hurst is the Candler Professor of Medicine (Cardiology) and chairman of the Department of Medicine at Emory University School of Medicine.

St. Louis University

■ St. Louis University Medical Center is one of the first 10 participants in a nationwide study aimed at reducing the disabilities that follow a stroke. Neurologists at the medical center will investigate nimodipine, an experimental calcium channel-blocking drug. Preliminary studies have shown that this drug may reduce mortality and aid in recovery from strokes caused by insufficient blood flow in the brain.

■ **Camilo R. Gomez, M.D.,** director of the department of neurology's Cerebrovascular Disease Service, is coordinator of the two-year study, which began September 1. The study is funded by an $83,544 grant from Miles Pharmaceuticals.

■ **George T. Grossberg, M.D.,** assistant professor of psychiatry and director of the division of geropsychiatry in the department of psychiatry and human behavior at St. Louis University School of Medicine, was recently elected to three psychiatric posts.

Dr. Grossberg was elected by his peers to the post of president of the Eastern Missouri Psychiatric Society. He will direct this organization's policy-making concerning mental health.

A second honor came when Governor John Ashcroft selected Dr. Grossberg as the only psychiatrist to be included on the Governor's Task Force on Alzheimer's Disease and Related Disorders. During this three-year appointment, he will represent the medical center and its researchers focusing on the diagnosis, cause and treatment of Alzheimer's disease.

Dr. Grossberg was also elected treasurer of the American Association for Geriatric Psychiatry (AAGP). The AAGP was founded by psychiatrists with a special interest in mental health care of the elderly.

■ St. Louis University School of Medicine, the Geriatric Research, Education and Clinical Center (GRECC), and the South Central Regional Medical Education Center at the Veterans Administration co-sponsored a symposium titled "Central Nervous System Disorders of Aging" on September 24 and 25 at the Clarion Hotel in St. Louis.

The symposium faculty included **George Grossberg, M.D.,** director of geropsychiatry at the medical school, **John Selhorst, M.D.,** chairman of neurology, as well as other medical school faculty, GRECC staff and physicians and researchers visiting from across the country. The conference coordinator was **Randy Strong, Ph.D.,** GRECC neurobiologist and assistant research professor of internal medicine.

■ **Raymond G. Slavin, M.D.,** professor of medicine and director of the division of allergy and immunology at St. Louis University School of Medicine, has received a grant of $18,000 to continue research into treatments for hay fever.

The grant will be used to study TP5, a synthetic material, designed to resemble a hormone that has been helpful in alleviating a variety of allergic conditions. The research will focus mainly on treating people who are allergic to grass or ragweed, the two most common causes of hay fever.

■ **Mark J. Shapiro, M.D.,** has been appointed director of the division of trauma surgery and director of the surgical intensive care unit at The University Hospital at St. Louis University Medical Center. Dr. Shapiro will also hold the faculty position of assistant professor of surgery in the school of medicine.

Dr. Shapiro received his medical degree from the University of Michigan, Ann Arbor, in 1979. He completed his surgical residency at Henry Ford Hospital in Detroit and served a fellowship in critical care medicine at the University Health Center of Pittsburgh. He is involved in research relating to trauma and is also an instructor in advanced trauma life support for physicians throughout the country.

■ **Carlos B. Hirschberg, Ph.D.,** professor of biochemistry at St. Louis University School of Medicine, has been awarded a five-year, $689,219 grant from the National Institute of General Medical Sciences.

Dr. Hirschberg and his co-workers will study the biosynthesis of glycoproteins and glycolipids, components of cell membranes. These membranes play a role in cell recognition and cell growth.

Dr. Hirschberg has been with the school of medicine since 1974, following post-doctoral training at Harvard University and the Massachusetts Institute of Technology. He is a native of Santiago, Chile and a graduate of the University of Chile.

■ **Marla Bernbaum, M.D.,** assistant professor of internal medicine at St. Louis University School of Medicine, has received two grants totaling $42,000 to continue her clinical research program for visually-impaired diabetics. The Juvenile Diabetes Foundation International is providing $33,000 in assistance, and the American Diabetes Association is granting $9,000.

New Members

■ **Frank K. Anderson, M.D.,** 133 S. 7th St., St. Charles 63301, has become a member of the St. Charles-Lincoln County Medical Society. Dr. Anderson received his preliminary education at the University of Illinois and his medical education at Northwestern University in 1980. He completed his residency training at Washington University. He specializes in dermatology.

■ **William T. Boulware, M.D.,** 103 Eleventh St., Chillicothe 64601, has become a member of the Grand River Medical Society. Dr. Boulware received his baccalaureate and medical degree from the University of Missouri-Kansas City in 1982. He completed his residency training at Southern Illinois University, Springfield, Ill. He specializes in internal medicine.

■ **Carolyn E. Brooks, M.D.,** Hamilton Medical Center, Cross St., Hamilton 64644, has become a member of the Grand River Medical Society. Dr. Brooks received her preliminary education at Dartmouth College and her medical degree at Dartmouth Medical School in 1982. She completed her residency training at Maine-Dartmouth, Augusta, Maine. She specializes in family practice.

■ **Robert H. Connors, M.D.,** 1465 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Connors received his preliminary education at Catholic University and his medical degree at the University of Michigan in 1975. He completed his residency training at the University of Michigan Hospitals. He specializes in surgery and pediatric surgery.

■ **Larry E. Davis, D.O.,** 2800 Hospital Drive, North Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Davis received his preliminary education at Northwest Missouri State University and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1967. He completed his residency at Lakeside Hospital in Kansas City, MO. He specializes in anesthesiology.

■ **Herman M. Ellis, M.D.,** 800 N. Lindbergh Blvd., St. Louis 63167, has become a member of the St. Louis Metropolitan Medical Society. Dr. Ellis received his preliminary education at the Manhattan College and his medical degree at Boston University in 1978. He completed his internship at Harlem Hospital Center, New York, NY. He specializes in preventive medicine and occupational medicine.

■ **Douglas P. Hanel, M.D.,** 1325 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hanel received his preliminary education at the University of Washington and his medical degree at St. Louis University in 1977. He completed his residency training at St. Louis University Hospitals. He specializes in orthopedic surgery.

■ **Anna E. Hartnett, M.D.,** 11 S. Meramec, St. Louis 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hartnett received her preliminary education at Loyola University of Chicago and her medical education at the University of Ottawa in 1960. She completed her residency training at Jewish Hospital of St. Louis. She specializes in psychiatry and psychoanalysis.

■ **Douglas W. Kiburz, M.D.,** 1718 S. Ingram, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Kiburz received his preliminary education at Doane College and his medical degree at the University of Nebraska in 1980. He completed his residency training at the University of Kansas Medical Center. He specializes in orthopedic surgery and sports medicine.

■ **Ricky L. Kime, M.D.,** 92 S. Main St., Cassville 65625, has become a member of the Ozarks Medical Society. Dr. Kime received his preliminary education at Hanover College and his medical degree at Indiana University in 1981. He completed his residency training at York Hospital, York, Pa. He specializes in internal medicine.

■ **Myron A. Levine, M.D.,** 604 Teaco Rd., Kennett 63857, has become a member of the Dunklin County Medical Society. Dr. Levine received his preliminary education at the University of Pennsylvania and his medical degree at the University of Pittsburgh in 1966. He completed his residency training at Magee-Womens Hospital, Pittsburgh, Pa. He specializes in obstetrics and gynecology.

■ **Susan J. Nelson, M.D.,** 35 N. Central, Clayton 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Nelson received her preliminary education at Oberlin College and her medical degree at Washington University in 1978. She completed her residency training at St. Louis Children's Hospital. She specializes in pediatrics and infectious diseases.

■ **Allen L. Paris, M.D.,** 802 Cass Ave., Post Office Box 9, West Plains 65775, has become a member of the South Central Counties Medical Society. Dr. Paris received his preliminary education at Indiana University and his medical degree at Indiana University in 1974. He completed his residency at the U. S. Center for Disease Control. He specializes in pathology.

■ **Indu B. Patel, M.D.,** 1683 Marriott Lane, P.O. Box 308, Barnhart 63012, has become a member of the Jefferson County Medical Society. Dr. Patel received his preliminary education at Gujarat College and his medical degree at B. J. Medical College in 1971. He completed his residency training at Good Samaritan and University of Maryland. He specializes in internal medicine.

■ **Gerald I. Polukoff, M.D.,** 18 S. Kingshighway, Apt. 12, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Polukoff received his preliminary education at the University of Florida and his medical degree at the American University of the Caribbean in 1985. He is completing his residency training at Deaconess Hospital. He specializes in internal medicine.

■ **Thomas C. Schnurr, M.D.,** 113 W. Hickory, Neosho 64850, has become a member of Ozarks Medical Society. Dr. Schnurr received his preliminary education at Benedictine College and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the University of Missouri-Columbia in 1985. He specializes in family practice.

■ **Norman E. Smith, M.D.,** 1877 San Pedro Lane, Fenton 63026, has become a member of the St. Louis Metropolitan Medical Society. Dr. Smith received his preliminary education at St. Louis University and his medical degree at St. Louis University in 1982. He completed his residency training at St. Louis University Hospitals. He specializes in obstetrics and gynecology.

■ **Thomas R. Weber, M.D.,** 1465 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Weber received his preliminary education at Eastern Michigan University and his medical degree at Ohio State University in 1971. He completed his residency training at the University of Michigan Hospitals. He specializes in surgery and pediatric surgery.

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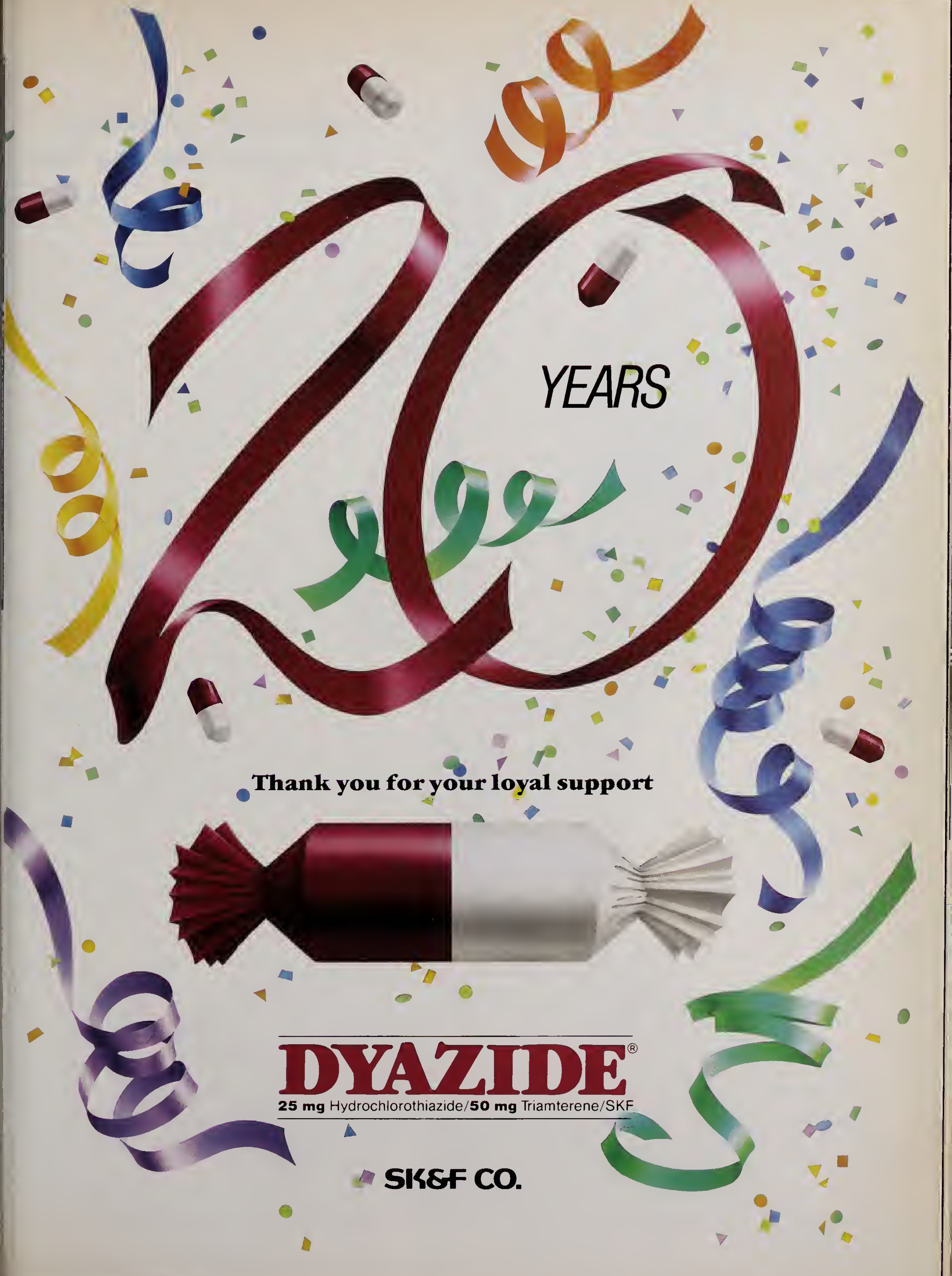
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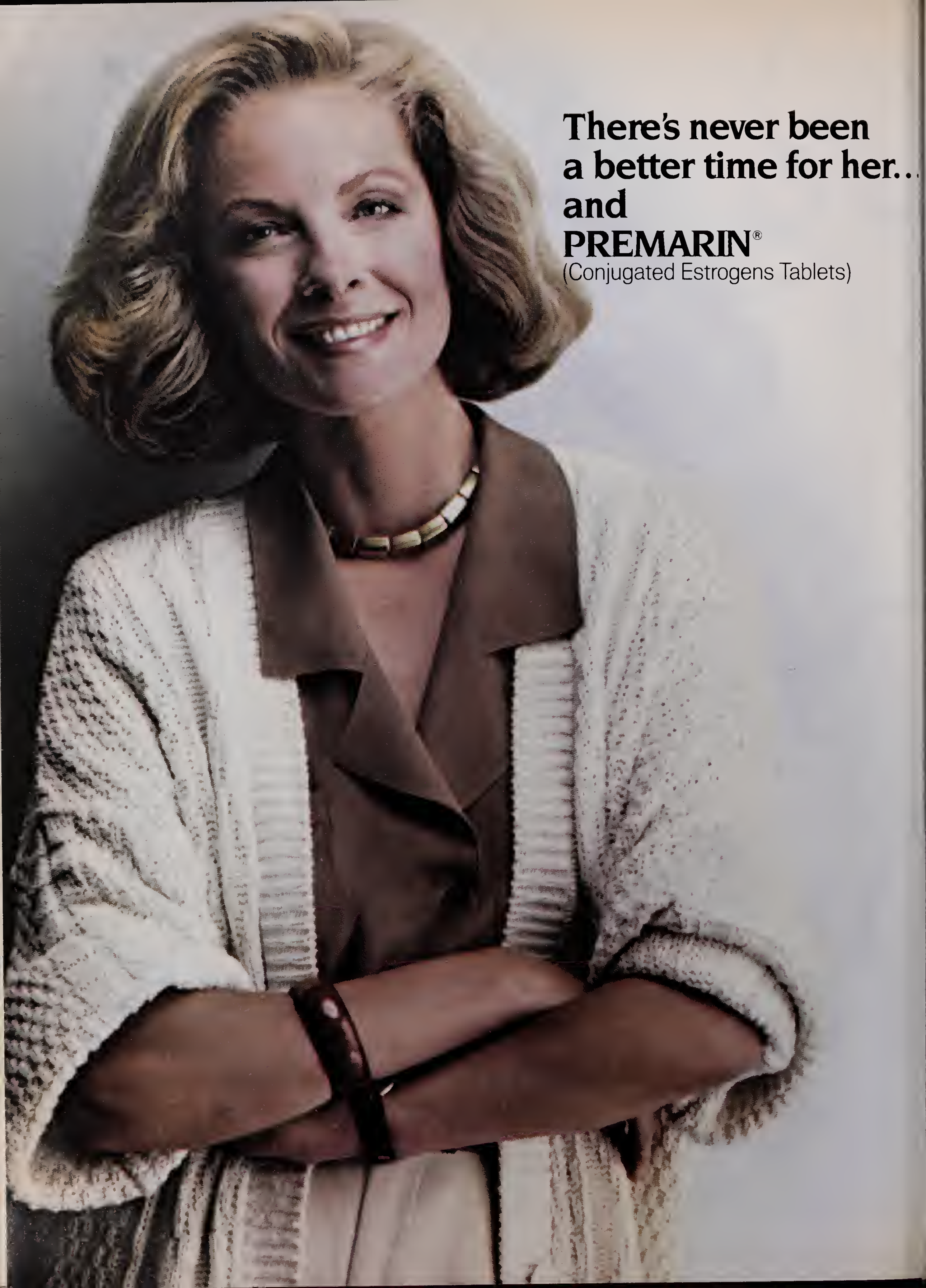

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(Conjugated Estrogens Tablets)

Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®

(Conjugated Estrogens Tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®

(Conjugated Estrogens Tablets)

PREMARIN 0.3
PREMARIN 0.625
PREMARIN 0.9
PREMARIN 2.5

0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

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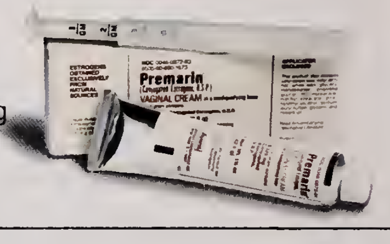
For atrophic vaginitis

PREMARIN®

(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow, dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis—0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 2. Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824 3. Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. 4. Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. 5. Barnes RB, Roy S, Lobo RA. Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219

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Emergency Medicine, Family Practice, OB/GYN, General Internist & ENT — needed for two-hospital, historic river town of 20,000. Drawing area of approximately 60,000 with new 19,000 acre recreational lake. Unlimited potential. Contact: Carol Neil, Physician Recruitment, 623 Broadway, Hannibal, MO 63401 or call 314/221-3107.

Full-Time Private Practice Opportunities from Healthline Physician Services, an affiliate of St. Louis University Medical Center, for the following specialties: Board Eligible or Board Certified Internal Medicine, and Board Certified Family Practice, Pediatrics and OB-GYN. Positions include income guarantee and no capital investment. For more information contact: Barry Trautman, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

Healthline Physician Services, an affiliate of St. Louis University Medical Center, his part-time and full-time opportunities available for physicians in Emergency Department, Clinic, and Locum Tenens work. Excellent compensation, flexible schedules, administrative opportunities and benefits, no "on-call" responsibilities and a challenging medical environment. If you are just starting out, looking for a career change, or want to supplement your income from another source please contact: Barry Trautman, Healthline Physician Services, 8401 Hanley Industrial Ct., St. Louis, MO 63144. 314/962-1233.

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Two Psychiatrists and One Neurologist — needed to complement a team of dynamic psychiatrists and general physicians. Located 65 miles south of St. Louis on Highway 67, our hospital has 318 beds. We are looking for Board Certified or Eligible specialists. Remuneration will range from $67,000 up, depending on years of experience, Board Certification and optional on-call days. Fringe benefits come to an additional 35% of the salary which includes vacation time, sick time, CME allowance, health insurance and life insurance. For detailed information, please write to: Adolph J. Herath, M.D., Medical Director, Farmington State Hospital, Farmington, MO 63640 or call 314/756-6792, extension 347.

Radiologist — Board eligible or certified for 48-bed north-central Missouri hospital expanding its diagnostic capability to include in-house CT scanning. Position is full-time. Radiologist will bill charges and hospital plans to guarantee a minimum. Medical staff includes 12 active staff physicians with several consultants. Interested candidates may submit Curriculum Vitae to Gerald E. Almond, FACHE, Administrator, Samaritan Memorial Hospital, P.O. Box 217, Macon, MO 63552.

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Equipment Wanted

Wanted — Used, late-model anesthesia machine. Call Dr. Dan Woodson 405/272-9641 (office) or 405/948-7016.

■ President's Page

Continued from page 725

Section" in the AMA. The MSMA will select a delegate and alternate to attend the inaugural assembly at the AMA Interim Session in December. Perhaps out of this will come a state assembly that will strengthen the direct and meaningful participation of young physicians.

Through the appointment process, state, county, local and specialty societies are encouraged to actively seek out and support qualified physicians for appropriate Council and committee leadership positions.

We need to mainstream our young physicians into organized medicine by providing for their direct voice in policymaking, their ongoing presence at all levels, and broad-based support through increased membership. ■

Internal Medicine Opportunities

Seeking Board eligible/certified internists to join 40 physician multispecialty group with large HMO and fee-for service practice. Competitive salaries, vacation & educational leave, insurance plans, malpractice coverage and pension plan. Contact:

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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

November

12 **Antihypertensive Therapy, The Changing Focus** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

14-16 **13th Annual Symposium: Anesthesia and the Geriatric Patient** — Location: St. Louis Marriott Pavilion Hotel. Contact: Geriatric Symposium, Department of Anesthesiology, Box 8054, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, 63110.

14-16 **The Ob Legal Environment: Medicine's Response — Location:** The Pointe at Tapatio Cliffs, Phoenix, AZ. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

15 **Obstetrical Liability: The University, The Community Hospital, National Perinatal Standards** — Location: Christian Hospital Northeast, St. Louis. Contact Loretta Giacoletta, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110 314/362-6893.

19 **Increased Intracranial Pressure Due to Tumor** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO. 314/454-7000.

19 **Infectious Diseases Seminar** — Location: Sheraton Westport, St. Louis. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6890.

21 **Searching MEDLINE with Your Personal Computer** — Location: Health Sciences Library, UMC School of Medicine. Contact Weldon D. Webb, University Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

December

3 **Cardiovascular Medicine Today: Theory and Practice** — Location: King Henry VIII Lodge and Inn, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Angina Pectoris** — Location: Pending. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

3 **Magnetic Resonance Imaging** — Location: The Ed Bixby Institute for Postgraduate Medical Education. Contact: Jane L. Jackson, Director of Seminars, The Ed Bixby Institute, Research Medical Center, 2316 East Meyer Blvd., Kansas City, MO 64132. 816/276-4306.

10 **Fifth Annual Symposium in Geriatric Medicine** — Location: Holiday Inn Westport, St. Louis, MO. Contact: CME Office, St. Louis University School of Medicine, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4488.

12-13 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

January 1987

4-9 **Practical Rheumatology for the Primary care Physician** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

13-19 **Bone Health: Endocrinological, Rheumatological, and Nutritional Aspects** — Location: Las Brisas, Acapulco, Mexico. Contact Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110.

17 **Ventricular Arrhythmia: Update 1987** — Location: Adam's Mark Hotel, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

21 **Cancer of the Prostate Gland** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

February

4-6 **Seventh National Conference on CAPD** — Location: Westin Crown Center, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Cutaneous Signs of Malignancy** — Location: Brown Room, Jewish Hospital, St. Louis. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

28-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

18 **Reconstructive Surgery for Patients with Cancer of the Head and Neck** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: Fransisco Lounge, Student Center, University of Kansas Medical Center. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

April

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

29-May 2 **Surgery of the Spine: State of the Art** — Location Marriott's Pavillion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

June

17 **Neuroendocrine Tumors: Pathologic and Clinical Characteristics** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

■ Practice Management

Continued from page 739

the patient doesn't have a phone? What if the patient is not at home from the hours of 9:00 am to 8:00 pm?

The above systems just don't work too well. I'd like to recommend a better approach. A better approach involves not just one idea, but a few sequential ones which I'll explain in five simple steps.

Step #1 — Doctor Communication

You should have a well designed charge ticket which makes it easy for you to note when you would like this patient to be seen again. This non-verbal communications tool helps your front office employees estimate when that patient should be seen again.

Step #2 — Reminder Mailing

The patient does your clerical work, by addressing an envelope to him/herself. The envelope contains a reminder card which is already inserted. The reminder card says: "Please call the office for your examination. The doctor thinks this is important for your continued well being."

Step #3 — Coding the Recall Visit

At the top right corner of the envelope, where you will eventually place a postage stamp, you will put a code indicating when the patient is to come back and when the patient was last seen. For example, 6/12 means the patient is to be back in June and was last seen in December; 6/6 means the patient is to be seen in June and was last seen in June; 6/3 means the patient is to be seen in June and was last seen in March. Obviously, the higher priority, for recall purposes, would be given to the patient who's coming in after 3 months.

All envelopes with a 6 on the numerator are placed in a June storage box, to be mailed in May. (Shoe boxes are very handy for storing these envelopes.) Starting in early May we could send out reminder mailings to those patients who have the higher priority, i.e., 6/3, 6/4 as compared to 6/6 and 6/9. A postage stamp is placed over the code numbers.

Patient appointment reminder cards are not all sent out in one big batch. We send out a few each day so we are not deluged with phone calls.

Step #4 — Patient Data Maintained

Every envelope going out of your office should have the

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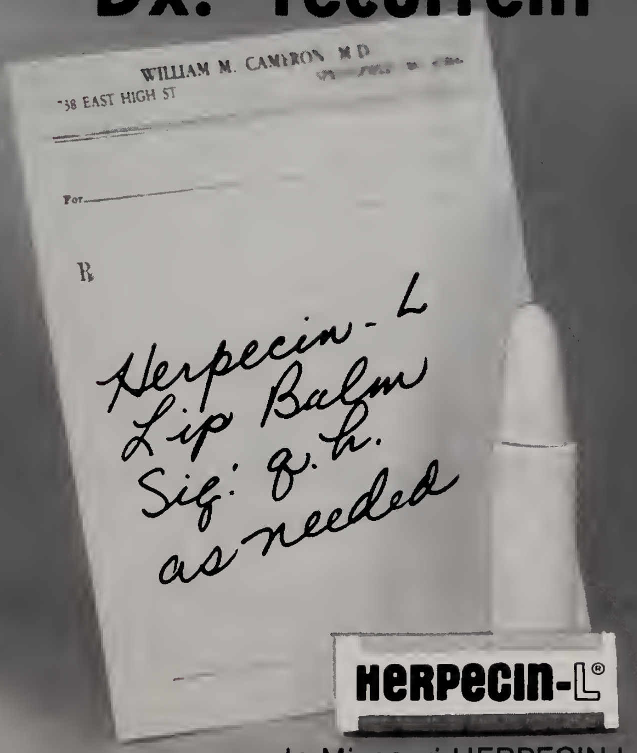
Dx: recurrent herpes labialis



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"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . HERPECIN-L **averted** the attacks." MD, AK

OTC. *See P.D.R.* for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Missouri HERPECIN-L is available at all *Gasen's, Medicare-Glaser, Osco, Super D Drug Stores* and other select pharmacies.

■ Practice Management

Continued from page 761

following three word message below your return address — "ADDRESS CORRECTION REQUESTED". Envelopes having this message instruct the post office to provide you with a new mailing address (for a fee of 25 cents) should the patient have moved. It would help you to have this information. You may wish to send a letter to this patient suggesting that he/she seek a new physician in the new community for health maintenance purposes.

Step #5 — Dealing With High Priority or High Risk Patients

If seeing a patient is very important and you are concerned about the possibility of mailing out a reminder card and not hearing from the patient, there is something you may wish to do. The simplest thing you could do is to buy colored, self-adhering dots, one-half to one inch in size, that could be affixed to the edge of the patient's file folder. A small, green dot could be used for the month of June, for example. When that June patient comes in, the receptionist peels the dot off the chart. At the end of the month of June, if we see any charts that still have small, green dots affixed, we would pull them and call the patients to get them in, or send them a second reminder note.

The other alternative is to maintain a hand-written monthly log for high priority patients and try to reach them: first by phone; if we can't reach the patient by phone, we'd try to send a mail reminder.

I recommend the 5-step approach above. Obviously, you can adapt these with variations that may work better for your practice. ■

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■ Editor's Desk

Continued from page 723

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Physician's Recognition Awards

Thirty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during August 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

Ralph Braunschweig, *Columbia*
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Donald A. Potts, *Independence*
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Gerhard W. Schottman, *Kansas City*
David G. Wood, *Kansas City*

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Galileu Cabral, *Chesterfield*
Enrique Cubillo, *Chesterfield*
David Feldman, *St. Louis*
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Edward H. Kowert, *St. Louis*
Carlos A. Perez, *St. Louis*
Arthur A. Porporis, *St. Louis*
Joseph A. Roy, *Bridgeton*
Lewis C. Vollmar, *St. Louis*

In Memoriam

■ **Theodore Fischer, M.D.,** P. O. Box 146, Altenburg 63732; graduate of Washington University, 1927; member of the Perry-Ste. Genevieve County Medical Society; age 84; died Sept. 17, 1986.

■ **Dyke Hata, M.D.,** Sixth & Spring Sts., Boonville 65233; graduate of Emory University, 1950; member of the Cooper County Medical Society; age 65; died Aug. 16, 1986.

■ **Jefferson D. Kernodle II, M.D.,** 3912 E. 119th St., Kansas City 64137; graduate of the University of Arkansas, 1936; member of the Jackson County Medical Society; died Sept. 18, 1986.

■ **Richard L. Lehner, M.D.,** 12425 434th Ave., S.E., North Bend, WA 98045; graduate of the Creighton University Medical School, 1941; member of the Jackson County Medical Society; age 69; died Sept. 2, 1986.

■ **Charles H. Lewellen, M.D.,** 122 South 3rd St., Louisiana 63353; graduate of the University of Louisville, 1941; member of the Pike County Medical Society; died May 9, 1986.

■ **Andrew D. Martin, M.D.,** 902 Moore Ave., Sikeston 63801; graduate of the University of Tennessee, 1934; member of the SEMO County Medical Society; died Aug. 25, 1986.

■ **Andrew J. Signorelli, M.D.,** 12634 Olive St. Rd., St. Louis 63141; graduate of the St. Louis University Medical School, 1930; member of the St. Louis Metropolitan Medical Society; died Sept. 19, 1986.

■ **Harold V. Woods, M.D.,** 1208 Hilltop Dr., Blue Springs 64015; graduate of the Kansas University Medical School, 1939; member of the Jackson County Medical Society; died Sept. 6, 1986.

This Date in Medical History NOVEMBER

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1530 François Rabelais takes his bachelor's degree in medicine before the Faculty in Montpellier.

1848 The first medical school for women, the Boston Female Medical School, opens with an enrollment of 12. It was promoted by Samuel Gregory, a pioneer in medical education for women. It was the only college to graduate professionals with the title "Doctress."

2

1664 First mention of plague in the bills of mortality of London at the start of the Great Plague.

4

1846 Patent for the first artificial leg.

1862 Ernest Guglielminetti, Swiss physician who originated a method of tarring road surfaces and studied the physiological effects of altitude in balloons, is born.

5

1650 Guy Patin is elected Dean of Faculty of Medicine at Paris. Patin (1601-1672) was an archconservative: "This powder of cinchona has not any credit here. Fools run after it because it is sold at a very high price, but having proved ineffective it is mocked now."

1892 William Forsyth Milroy, an Omaha physician, describes chronic hereditary edema (Milroy's disease).

6

1880 French army surgeon Charles Alphonse Laveran (1845-1922) first observes the malarial parasite in human blood.

7

1847 Elizabeth Blackwell's (1821-1910) name is entered on the roll books of the medical department of Geneva University.

1867 Marie Sklowdowski, codiscoverer with her husband Pierre Curie of radium, is born. They refused to take out patents on the usage of a substance that promised so much benefit to mankind.

8

1847 James Young Simpson first uses chloroform on an obstetrical patient, Wilhelmina Carstairs, daughter of a physician.

1895 Wilhelm Conrad Roentgen X-rays his own hand.

1922 Christiaan Barnard, South African heart transplant surgeon, is born.

10

1871 Henry M. Stanley finds Dr. David Livingston at Ujiji near Unyanyembe. Livingston, a medical missionary, had discovered Victoria Falls (1855), had explored the sources of the Nile, had described the relapsing fever that follows on the bite of a tick, and related the bite of the tsetse fly to a disease in cattle.

11

1771 Ephraim McDowell, American frontier surgeon who performed the first ovariotomy, is born.

1938 "Typhoid Mary" Mallon dies.

12

1846 Letter Patent No. 4848 is issued to Charles T. Jackson (physician) and William T. G. Morton (dentist) for 10% of all profits on the use of ether in surgical operations.

13

1715 Dorothea Christiane Erxleben, German physician, is born. She was the first woman medical doctor and practiced in Quedinburg.

14

1891 Frederick G. Banting, the discoverer of insulin, is born.

16

1958 Samuel Hopkins Adams, American writer who debunked quack nostrums in his *The Great American Fraud* (1906), dies. "With the exception of lawyers, there is no profession which considers itself above the law so widely as the medical profession."

17

1645 Nicolas Lemery, French physician and chemist who discovered iron in the blood, is born.

1863 Madame de Pauw dies of foxglove poisoning administered by Dr. Couty de la Pommerais. The toxicological solution to this murder by Dr. Ambroise Tardieu represented a milestone in forensic medicine.

22

1902 Walter Reed verifies the mosquito transmission of yellow fever.

25

1884 The first removal of a cerebral tumor is accomplished by British neurosurgeon Rickman Godlee (1849-1925).

26

1853 William Murrell, English physician who (with Lauder Brunton) pioneered the use of nitroglycerin in the treatment of angina pectoris, is born.

1891 Dr. Thomas Neil Cream, wholesale poisoner, writes to Dr. William Broadbent to blackmail him regarding a case of strychnine poisoning. This letter would open the case leading to Cream's capture and conviction.

29

1944 Alfred Blalock helps Helen Taussig demonstrate her proposed "blue baby" operation at the Johns Hopkins Hospital.

30

1901 Viennese physician Alfred Fröhlich (1871-1953) reports a new syndrome of obesity, sexual infantilism and hair loss associated with a hypothalamic tumor.

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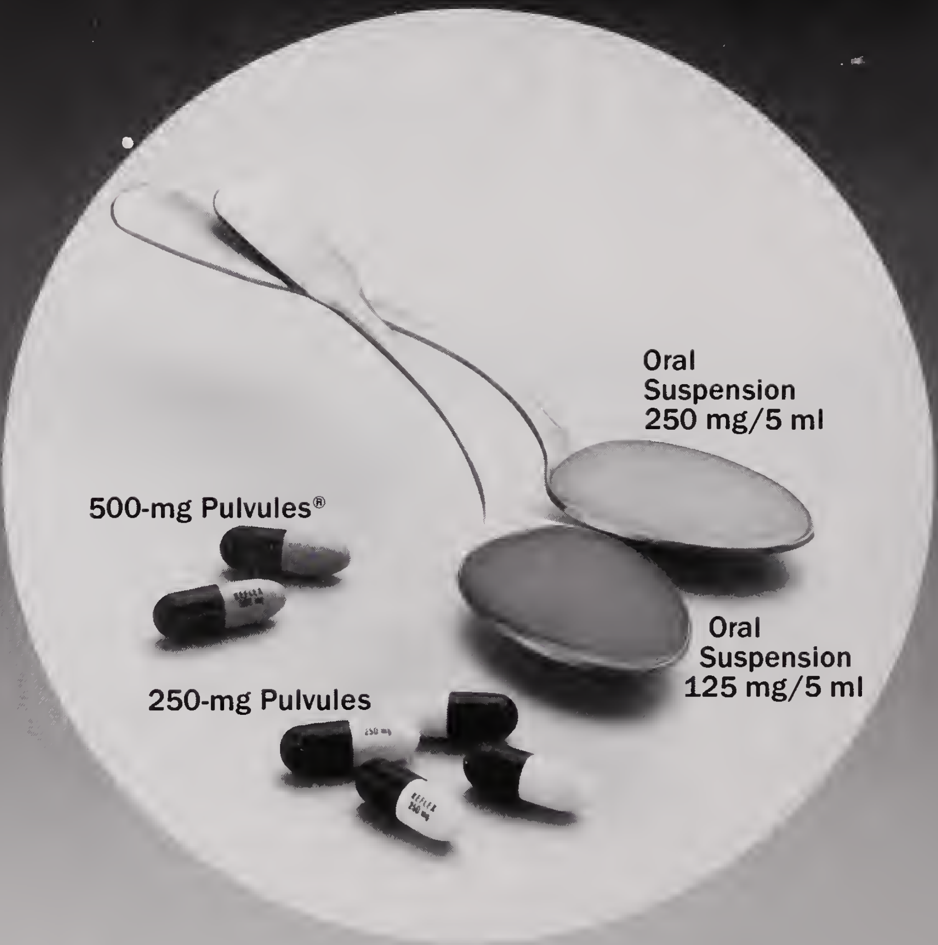
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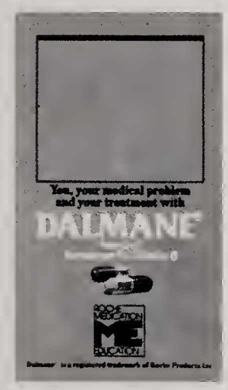
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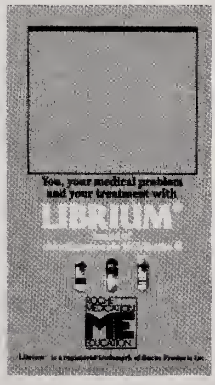
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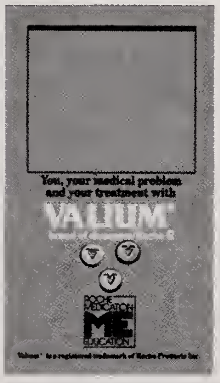
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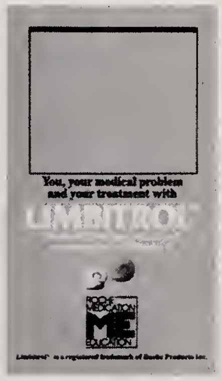
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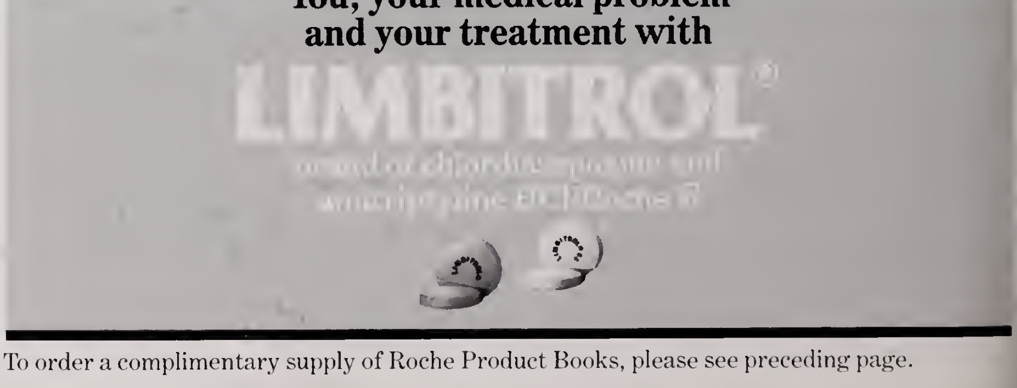
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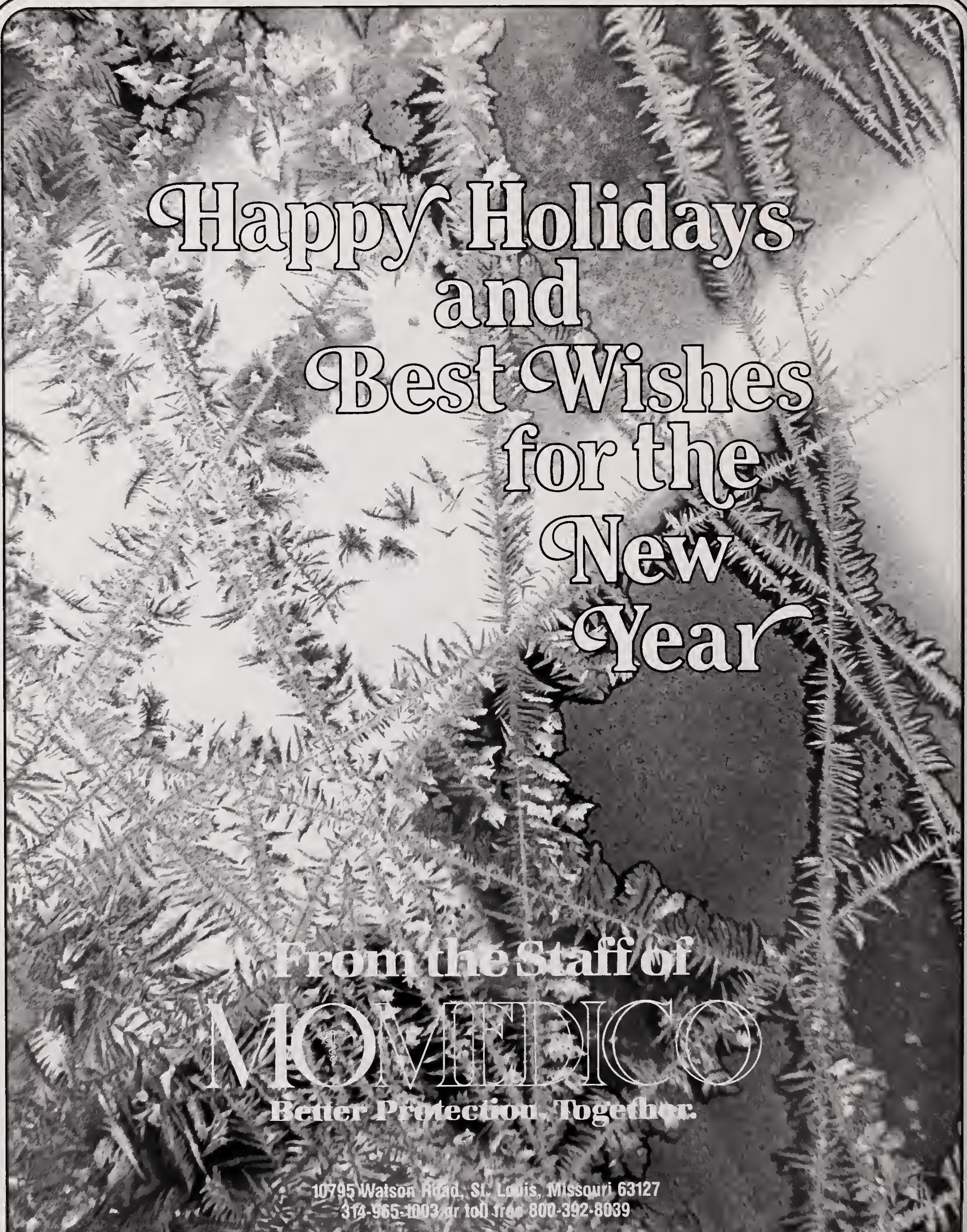

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MSMA Progress Notes

MMPAC record excellent for November election

The Missouri Medical Political Action Committee (MMPAC) posted a fine record in contested races of the 1986 General Election for the Missouri State Senate and State House of Representatives.

Of nine State Senators supported by MMPAC in the General Election, all nine won. In House races, MMPAC supported 80 representatives in contested races and 72 of them were winners, a 90% showing.

Highlights of the recent election include:

- **Thomas M. Macdonnell, M.D.,** of Marshfield being elected as State Representative for the 140th District. Dr. Macdonnell is a vice president of MSMA. His specialty is family practice.
- Beginning his third term in the House is **Tim Kelley** of Savannah, representing District 6. His brother, **Pat Kelley,** will serve his first term representing District 48 in Lee's Summit. Their father is **Gilbert Kelley, M.D.** of Savannah, an active MSMA member and family practitioner.
- Serving her third term from District 159 is **Mary Kasten** of Cape Girardeau. Representative Kasten is married to **Melvin C. Kasten, M.D.,** an MSMA Councilor from our Association's Tenth District. Dr. Kasten is a general surgeon. The Kasten's son, **Mark,** is a family practitioner in Cape Girardeau and an active member of MSMA.

Congratulations to these new legislators and to MMPAC on an outstanding record for 1986! ■

Medicare informational alert

To keep the profession fully informed about the complex Medicare payment changes which will occur next year and of the implications for individual physicians, AMA is developing an indepth informational program.

Through this priority project, the AMA is preparing three special mailings for the Federation and a multiple part series of articles that will be published in *American Medical News*. The first article appeared on page one of the November 21 issue. This article focused on the payment and participation issues.

All physicians must advise their Medicare carrier in writing no later than December 31 if they wish to change their present status. No action is necessary for those wishing to continue their current status. It is suggested that those wishing to change their status do so by registered mail.

It will be essential for physicians to request information on two specific charge levels:

- the physician's customary-charge profile
- the new prevailing charges for both participating and non-participating physicians (if the physician does not have a charge profile for the April-June, 1984 period, he or she then should request the new prevailing charges for that category of physicians)

As a special service for the profession, the AMA also is developing a comprehensive question-and-answer paper dealing with the many facets of the new Medicare provisions and their implications.

Before making their 1987 participating or non-participating decisions, physicians would be will advised to collect all of the pertinent information and to act from an informed basis. The information should be adequate for physicians to weigh the practical and financial consequences of their choices. ■

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MSMA members who participated in the Workers' Compensation dividend plan managed by the Dodson Insurance Group and approved by MSMA realized a 20% savings off scheduled premiums for the fiscal year ending July 1, 1986.

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For more information on how to join, call or write the Dodson Insurance Group, 92nd Street and State Line, Kansas City, MO 64114. 1-800/892-3431. ■

High court alters statute of limitations interpretation

A recent Missouri Supreme Court ruling on the statute of limitations dealt a blow to Missouri physicians facing medical malpractice court actions. (See related Letter to the Editor, page 779).

In *Harold M. Poling vs. S. K. Moitra, M.D.*, Cause No. 67917, the Supreme Court of Missouri en banc recently held that RSMo Section 516.200 "tolls" the statute of limitation if, after a cause of action accrues, an individual departs from and resides outside the state of Missouri.

In *Poling*, the defendant, Dr. S. K. Moitra, performed an operation on the plaintiff in 1980. In 1981, the doctor moved to Pennsylvania and has resided there since. Plaintiff filed a medical malpractice action against the defendant in March of 1983 based upon the 1980 operations.

Normally, a two year statute of limitations applies on medical malpractice claims, RSMo Section 516.105.

However, because the Supreme Court chose to read RSMo Section 516.200 (the tolling statute) literally, the Court held that the defendant could be sued even though three years had elapsed since the time of the operations.

In other words, a plaintiff may delay filing suit indefinitely, regardless of the applicable statute of limitations, so long as the defendant remains outside the state.

In reaching this decision, the Supreme Court rejected the rationale of a number of lower court decisions which held that this tolling statute should not apply when a plaintiff can obtain civil service of process on an out-of-state defendant, pursuant to Missouri law. The Court noted that Section 516.200 was explicit and unambiguous in its language and that if the Legislature did not want statutes of limitation stopped under the circumstances, it could easily amend the statute.

This was a 4-3 decision, with the dissenting judges noting in a separate opinion that they believe that the out-of-state service of process statute repeals by implication the tolling statute. They further stated there is no reason for perpetuating the tolling statute against the defendant, who may be subjected to personal judgment in Missouri. ■

New toll-free Medicare number

Medicare recently established a toll-free WATS line exclusively for physicians out of the Kansas City area, 1-800/654-9629. The previous out-of-area WATS number, 1-800/892-5900, is to be used only by Medicare beneficiaries.

Here is the current listing of phone numbers to use to verify Medicare coverage or determine the status of a Medicare claim:

Physicians — local calls 756-1601 or 756-1602
out-of-area 1-800/654-9629 (please do not give the above numbers to your Medicare patients)
Beneficiaries — local calls 561-0900
out of area 1-800/892-5900 ■

Drug diversion

The Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs has prepared a booklet titled, "Protecting Your Medical Practice."

The booklet reviews federal and state laws relating to controlled substances, recordkeeping, storage, legal prescriptions and how to prevent diversion/abuse of prescription drugs.

Obtain your copy by writing the Missouri Board of Registration for the Healing Arts, P.O. Box 4, Jefferson City, MO 65102. ■

Market Area Profile available

Physicians just entering practice or desiring to reestablish in another area having greater potential will be interested in AMA's Market Area Profile (MAP) Service.

MAP Service also is beneficial to physicians not wanting to relocate, but desiring to build a more efficient practice since it provides vital demographic information about the residents in the area, their medical needs and their accessibility to various medical services.

Data obtained from MAP Service will enable physicians to determine what the potential practice base is in any specific area and to plan for the future accordingly.

MAPS reports, which are provided on a subscriber basis, include the following data:

- Demographic information such as population, age, income, etc.
- Physician manpower data by medical specialty, age and professional activity.
- Local hospital data on specific facilities and utilization of services, size and description of the medical staff and other essential information.

For additional information about MAPS, physicians may call the toll-free AMA number 1-800/826-6895. ■

CPI increases

The Bureau of Labor Statistics announced an increase in the September indicators for the Consumer Price Index (CPI) for all urban consumers (CPI-U).

"All Items" climbed 0.5% in September, yielding a 1.8% increase in that indicator since September 1985.

The "Medical Care Index" edged up 0.5% during the same period, fueled primarily by a significant 0.8% jump in "Physician Services" while the hospital components were up only slightly. The total percentage change for "Physician Services" for the 12-month period ending September 1986 is 7.7%. ■

The Omnibus Budget Reconciliation Act of 1986

Medicare Highlights

The following summary highlights certain requirements of the Medicare program as a result of changes made by P.L. 99-509 enacted October 21, 1986 affecting:

- Physicians
- Hospitals
- Carriers and
- PROs

Physicians

Medicare Reimbursement

Equal update of 3.2% in Medicare prevailing charges, beginning January 1, 1987, for both participating and non-participating physicians. Non-participating physicians to receive 96% of amount allowed participating physicians as actual reimbursement.

Physician Fees

The current freeze on actual charges of *non-participating* physicians expires on December 31, 1986 and is replaced by the following system of charge limitations, effective January 1:

- If the physician's *actual charge* for any given service is at or above 115% of the prevailing charge (as determined from year to year), the actual charge for that service may be increased by no more than 1%;
- If the actual charge is less than 115% of the prevailing charge, that charge may be increased by the greater of 1% or as follows:

  January 1, 1987 — charge increases are limited to 1/4th of the difference between the actual charge and 115% of the Medicare prevailing charge;

  January 1, 1988 — charge increases are limited to 1/3rd of the difference between the actual charge and 115% of the Medicare prevailing charge;

  January 1, 1989 — charge increases are limited to 1/2 of the difference between the actual charge and 115% of the Medicare prevailing charge; and

  January 1, 1990 and subsequent years — actual charges may be increased to 115% of the Medicare prevailing charge.

Medicare carriers are required to provide each non-participating physician, at the beginning of each year, with a list of his or her maximum allowable actual charges for the year.

The Secretary, using inherent reasonableness procedures, must review ten most costly Medicare procedures. On any procedure where the Medicare prevailing is reduced as a result of the application of "inherent reasonableness" authority, non-participating physicians have to reduce their actual charge, over a two-year period, to no more than 125% of the new Medicare prevailing charge.

The Secretary is to impose sanctions against non-participating physicians who knowingly and willfully bill beneficiaries an amount exceeding the maximum allowable actual charge. These penalties are to be in effect through the earlier of either December 31, 1990 or 1-year after the Secretary reports to Congress on the development of a RVS.

Where a non-participating physician does not have actual charges for the base period (April-June, 1984), maximum allowable charges are to be set at the 50th percentile of the customary charges for the service of non-participating physicians in the locality during the 12-month period ending on June 30 of the previous year.

(There still are no limitations on participating physician fees.)

Participation/Non-Participation

- Must make a new election prior to January 1, 1987.
- Participating physicians must continue to accept assignment in all cases.
- Non-participating physicians may continue to elect assignment on case-by-case basis.
- Directories listing participating physicians will be available free.
- Participating physicians have no controls on fees.
- Non-participating physicians must (where assignment is not accepted) for elective surgery (over $500):
  - — advise patient, in writing (on form approved by Secretary):
    - — Medicare allowed amount
    - — patient's deductible and coinsurance liability
    - — physician's excess charge
  - — make refund to beneficiary where disclosures are not made
  - — this provision is effective October 1, 1987.
- Hospitals to make available to inpatients and outpatients a copy of participating physician directory.

Hospitals

- 1.15% increase in DRG payment
- Capital cost pass-through reduced over 3 years (3.5% in FY 86, 7% in FY 1988, 10% in FY 1989)
- Severity of illness index for DRGs to be developed
- Must provide discharge planning
- No reduction (from current 5 years) for full direct graduate medical education reimbursement
- Reduced payment for outpatient surgery facility charges in the hospital
- Prohibited from unbundling outpatient services
- Secretary will develop PPS for outpatient ambulatory surgery
- PIP is eliminated for most hospitals
- Furnish patients with notice of Medicare rights

Carriers

- Must have program to encourage participation by physicians
- Will receive cash bonus based on increase in physicians who participate
- Requires prompt payment of clean claims
- Must begin paying interest on delayed claims (interest starts sooner for participating physicians).

PROs

In addition to previous obligations, PROs must

- spend resonable proportion of time reviewing quality of services in all settings. Physician office review delayed until January 1, 1989.
- Review HMOs/CMPs.
- Respond to all written beneficiary complaints.
- Review hospital denial notices
- Review cases of hospital readmissions occurring within 30 days of discharge.

Other

- Physician assistants' services will be directly reimbursed (to employer) in certain cases.
- Nurse anesthetist services will be directly reimbursed.
- Reimbursement for optometrists has been expanded to include any Medicare covered services which the optometrist is allowed to provide under state law.
- Clinical lab competitive bidding demonstration moratorium has been extended.
- Mandated assignment for clinical lab services in a physician's office will go into effect on January 1, 1987.
- Prohibits certain physician incentive payment programs.
- HMOs subject to penalties for failing to "provide medically necessary items and services." ■

Medicare questions and answers

1. What does it mean to be a participating physician?

A participating physician is a physician who agrees, in writing, to provide all services for Medicare beneficiaries on an assigned basis for the full calendar year.

2. What is a non-participating physician?

A non-participating physician does not sign an agreement to accept Medicare assignment on all claims. A non-participating physician may still see Medicare patients and accept assignment on a claim-by-claim basis. It should also be noted that all physicians (participating or non-participating) must accept assignment for all clinical laboratory services provided to Medicare beneficiaries.

3. What is an assigned basis?

The physician agrees to bill Medicare directly and accepts Medicare's allowed amount as payment in full. Medicare pays 80% of the allowed amount after the beneficiary meets the deductible. When a claim is accepted on an assigned basis, the physician can only collect any outstanding deductible for the year and the 20% coinsurance from the beneficiary.

4. When must I make a decision about being a participating physician?

Decisions must be made between now and December 31. During this time a participating physician can choose to become a non-participating physician and a non-participating physician can sign up to participate.

5. What are the benefits of being a non-participating physician?

You can continue to accept assigned Medicare claims on a case-by-case basis. On unassigned claims, you do not bill Medicare directly and you can also collect the full amount of your fee from the beneficiary (as limited by your Maximum Allowed Actual Charge — see Question 8).

6. What are the benefits of being a participating physician?

a. A participating physician has no controls imposed on fees charged to Medicare beneficiaries. While there are no controls on participating physicians' fees, the physician cannot collect any more than the Medicare allowed amount since all claims are assigned. However, the higher fees are considered in calculating the physician's customary charge profile.

b. The prevailing charge level (the highest amount that Medicare will recognize for a service in an area) will be higher for participating physicians. In 1987 and beyond, the prevailing charge for non-participating physicians will be set at 96% of the prevailing charge for participating physicians.

c. Participating physicians will be listed in a directory for their geographical areas. These directories are designed to provide beneficiaries, hospitals, carriers, senior citizen groups, participating physicians and others information as to physicians who have signed participation agreements. It should be noted, however, that in the past this directory has not been available until well into the calendar year.

d. Hospital personnel (including emergency departments) will be required, when referring patients to a non-participating physician, to inform the patient of the name of a "qualified participating physician" where practicable. Hospitals will also be required to have available for beneficiaries the Medicare Participating Physician Directory.

e. Carriers will be required to process 95% of participating physicians' "clean claims" (i.e., those that need no further information) seven days sooner than the claims of non-participating physicians.

Beginning in October of 1987, interest on delayed claims will be paid beginning seven days sooner for participating physicians (19 days) as compared to non-participating physicians (26 days).

f. Participating physicians receive a decal identifying their participation status.

g. Hotlines are available for beneficiaries to call and receive the name of a participating physician.

h. Beneficiaries will be reminded about the participating physician program in the Explanation of Medicare Benefits (EOMB) and in Social Security check mailings.

7. What else does it mean to be a non-participating physician?

A non-participating physician has controls applied to the fees they may charge Medicare beneficiaries, has a reduced reimbursement level compared to participating physicians, must provide a notice of certain charges to Medicare beneficiaries prior to providing the service, and may be required to rebate to beneficiaries charges related to a claim where Medicare finds that the service (if unassigned) is determined to be medically unnecessary.

8. What are the fee controls?

A non-participating physician has controls placed on the maximum fees that can be charged to Medicare beneficiaries. Each physician will have a maximum allowable actual charge (MAAC) assigned to each service that the physician provides to Medicare beneficiaries. Generally the MAAC relates to the physician's charges during April-June 1984 (the base period) and the prevailing charge of non-participating physicians for 1987. (Special rules apply for services for which the physician has no charge during the base period and when the physician has more than one charge during the base period. Other special rules apply for cataract surgical procedures and anesthesia services associated with cataract and iridectomy surgery.)

In 1987, for a physician with a charge during the base period that is equal to or higher than 115% of the prevailing charge level in 1987 for non-participating physicians, the physician can set his 1987 fee to Medicare beneficiaries by increasing the base period charge by 1%. For physicians whose base period charge is less than 115% of the 1987 prevailing charge for non-participating physicians, the physician can increase the fee the greater of (a) 1% or (b) 25% (one quarter) of the difference between the physician's base period fee and 115% of the prevailing charge level. (For example, if the physician's base period charge is $100 and 115% of the prevailing charge level is $115, the physician's MAAC will be $103.75. However, if the physician's base period charge is $120, the physician's MAAC will be $121.20 (a 1% increase).)

For physicians who have no charges during the base period, their base period charge is set at the 50th percentile of customary charges (weighted as to frequency) for that service made by non-participating physicians in the area during the 1986 fee screen year.

For physicians who had more than one charge during the base period, the base period charge is deemed to be the physician's median charge during the base period.

(See below for special rules relating to cataract surgery and anesthesia related to cataract and iridectomies.)

9. Must a non-participating physician charge all Medicare patients the same fee?

No. A non-participating physician is not required to charge the MAAC to all Medicare beneficiaries; the physician is not in violation of limits as long as the weighted average of the physician's charges over the year as to a service or procedure does not exceed the MAAC.

10. What special fee rules are there for cataract surgery?

Congress has required that the reimbursement level for cataract surgery and anesthesia services relating to cataract surgery and iridectomies be reduced. The Fact Sheet from the carrier lists the CPT-4 codes for which the reductions apply. This reduction in reimbursement applies to all physicians, not just non-participating physicians. However, non-participating physicians will have special fee controls for these procedures. In 1987 non-participating physicians will be allowed to charge no more than 125% of the prevailing charge for the service in their area, plus one-half the difference between the base period fee and 125% of the prevailing charge. (In 1988, the maximum fee will be 125% of the prevailing charge.) This limit could require a roll-back (i.e., reduction) of the physician's fees and could be lower than the MAAC as discussed above.

11. What are the penalties if I am found in violation of fee controls?

If found in violation, the physician may face penalties of up to $2,000 per violation, assessments of up to double the amount over the MAAC limit, and exclusion from the Medicare program for up to five years.

12. What are the differences in reimbursement levels between participating and non-participating physicians?

The prevailing charge level (the highest amount Medicare will recognize in an area for a service) for non-participating physicians will be 96% of the prevailing charge for participating physicians. This will affect the amount that can be collected if the physician accepts assignment on a claim or the amount the patient will be reimbursed on a non-assigned claim.

13. For what types of services

must notice of charges by a non-participating physician be provided beneficiaries?

Beginning October 1, 1987 on unassigned claims for elective surgical procedures with a charge over $500, the physician must inform the patient of an estimate of the physician's actual charge, the estimated Medicare allowed amount, the patient's responsibility for any coinsurance, and the balance due the physician above the Medicare allowed amount. This information must be provided the patient on a form developed by the HHS Secretary.

14. What is the provision regarding "unnecessary services"?

Effective October 1, 1987, when a non-participating physician provides services on an unassigned basis that are determined by a carrier or peer review organization (PRO) to be medically unnecessary, the physician will be required after an opportunity for appeal, to refund to the beneficiary the charge for the particular service. (Exceptions are provided in certain cases.) Failure to provide the refund will subject the physician to stringent Medicare civil, monetary and other program sanctions (including exclusion from the program).

15. What factors should be considered in whether it is advisable to participate or not participate?

The decision to participate must be based on the nature of each physician's practice and the physician's view as to the role of the federal government in patient-physician relationships. On an economic basis, the physician should evaluate practice costs and current Medicare revenues as they relate to the Medicare allowed amount, the success in collecting fees owed, and the volume of Medicare services provided. A non-participating physician will be allowed to collect the full amount of his or her fee (as capped by the MAAC) on non-assigned claims. Depending on the physician's MAAC and the Medicare allowed amount, this ability to "balance bill" can be very important. While a participating physician can set a fee to Medicare patients at whatever level the physician feels appropriate, the amount collected will nevertheless be limited to the Medicare allowed amount. However, this higher fee will be used in determining the physician's customary charge profile. The physician should also consider whether participation and listing in the Participation Directory will increase patient volume. The physician should also recognize that in signing a participation agreement, regardless of any circumstances, assignment must be accepted on all claims.

16. I have been a non-participating physician up until now. If I sign up to participate, will I be treated differently from other participating physicians?

No. If you sign an agreement by December 31, 1986, you will receive the same benefits as a physician who has always participated. Therefore, you will have your Medicare services reimbursed at the higher participating physician's rate, have no controls on your fees, and not be required to provide information on the cost of elective surgical procedures to your patients since you accept the Medicare allowed amount as payment in full.

17. I have been a participating physician since 1984 and would like to become a non-participating physician. How will my fees and reimbursement be affected.

If you terminate your agreement, you will be treated as a non-participating physician for 1987. You will be allowed to accept assignment of claims on a case-by-case basis. In addition, on claims that are not accepted on an assigned basis, you will be able to collect the full amount of your fee (as controlled by your MAAC). The prevailing charge that applies to you will be 96% of the prevailing charge for participating physicians. This amount may be lower than your Medicare reimbursement level in 1986. Also, your fees will be controlled as discussed above. This may mean a roll-back of your actual fees to Medicare beneficiaries.

18. What is the sign-up period for participation or non-participation?

Physicians must make a participation decision by midnight, December 31, 1986. If a physician participating in 1986 wishes to continue as a participating physician, no further action is necessary since the agreement entered into previously is automatically nenewed. If a participating physician does not want to continue as a participating physician, the physician must notify, in writing, each carrier to which the physician submitted a participation agreement. The participation decision relates to 1987. At the end of the year you will have an opportunity to change your status.

Your Medicare carrier is required to provide you information concerning prevailing charges, base period charges, and other data needed to help you make your participation decision an informed one. The carrier will also provide non-participating physicians their MAACs, but not until after the start of the year. We recommend that you request information in writing (certified mail — return receipt requested). You should also call your carrier at the number contained in a letter the carrier has sent you concerning the participation program and other Medicare changes. ■

Letters to the Editor

New high court ruling affects all Missouri physicians

Dear MSMA members:

In an earlier letter to you this year, MOMEDICO called your attention to an unusual action of the Supreme Court of Missouri. They declared unconstitutional the recent statute of limitation for children (minors). In effect, the Supreme Court ruling reestablished majority plus two years.

Now comes an even more far reaching destruction of the two year statute of limitations for adults.

In October, 1986, the Supreme Court ruled that a potential defendant had to remain within Missouri for a full two years for the statute to run its course.

In *Poling vs. Moitra*, Dr. Moitra performed two operations on plaintiff Poling, and ceased his treatment of plaintiff in October of 1980. In June of 1981, Dr. Moitra took up residence in Pennsylvania. He has lived there since. Plaintiff filed a medical malpractice action against Dr. Moitra in March of 1983. We moved for a summary judgment for defendant on the basis that the two year statute of limitations had run. The trial court ruled in defendant's favor.

The plaintiff appealed. The Court of Appeals ruled that the Trial Court was correct in ordering the summary judgment because the defendant remained amenable to personal service outside the state of Missouri, as provided under 506.500 R.S.Mo. Furthermore, Poling could have filed suit against Dr. Moitra within the required two year time period and could have attained prompt service.

Poling then appealed to the Missouri Supreme Court. The Supreme Court reversed the lower courts decision and remanded the case for further proceedings. The substance of this opinion is that *whenever a defendant leaves* the state of *Missouri prior to* the *running of the* two-year *statute of limitations for medical malpractice cases, the statute is tolled and never runs until the defendant returns to the state* and the remainder of the statute expires.

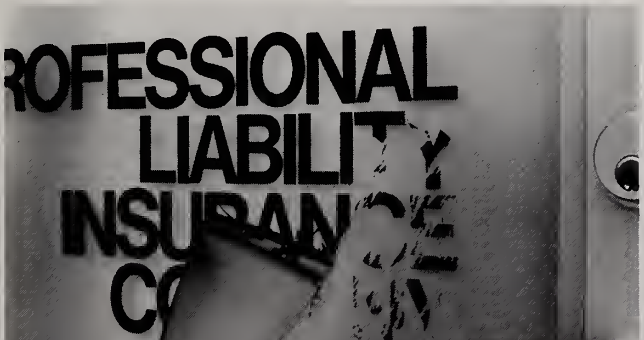
This is a particularly dangerous decision for residents who routinely leave the state to start private practice elsewhere. In addition, if they can be held in a case based on this ruling, they can legitimately "third-party" in any other physician or hospital who was also involved in patient care.

This is a decision which would effect adversely any situation in which an employee or a resident or a nurse, left the state while the statute was running its two-year course.

Sincerely,
Richard V. Bradley, M.D.
President
MOMEDICO

(see Progress Notes, page 773)

In ten years your malpractice carrier may be just a memory.



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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Advances in biotechnology and medicine are causing this graying of America without any single, dramatic medical breakthrough. If living 85 years were necessary to be called "old," then 170,000 Missourians already qualify.

Postponing the December of Life

If the "December" of life is mentioned, it is in reference to the last, lingering years. But, when is this December? Old age began at age 50 not too long ago, but people are living longer, and unless we redefine old age, geriatrics will soon encompass nearly half of the population.

Demographers come out with interesting statistics on the subject.* If the present annual 2% decrease in mortality were to continue at all ages for the next century, there would then be 19 million centurians in the United States. Missouri alone would by then have some 8000 citizens over age 125. In our state in 1985, 1.3 million of us were over 65. If living 85 years were necessary to be called "old," 170,000 Missourians already qualify. Even if fertility and mortality rates don't change during the next century, the percentage of the population over 65 will have risen from 25% to over 40%.

The medical implications of this progress against mortality are enormous. Advances in biotechnology and medicine are causing this graying of America without any single, dramatic medical breakthrough. Chronic degenerative diseases are replacing infection and acute diseases as the leading cause of death. Some 40% of nursing home residents have circulatory diseases, and 20% have some form of psychosis. The elderly tend to need pediatrics-like care. They lack the dexterity to handle medications or adjust their glasses or hearing aids. Inability to cope with medications has been estimated to be the primary reason for 25% of the placements in nursing homes.

Technology will do much more for the oldsters in the years ahead. Transdermal and other delivery systems will help get the desired medicines into the patients. The home-bound elderly can be monitored by telephone. Voice synthesizers can be adapted to warning systems to make life safe for older people with decreased sensation levels. But, granted all of this, the personal touch has no substitute. Physicians must continue to oversee proper medical care of the elderly, and be especially sure that residents of nursing homes get proper care, and proper caring.

One of these days we may well be there ourselves. ■

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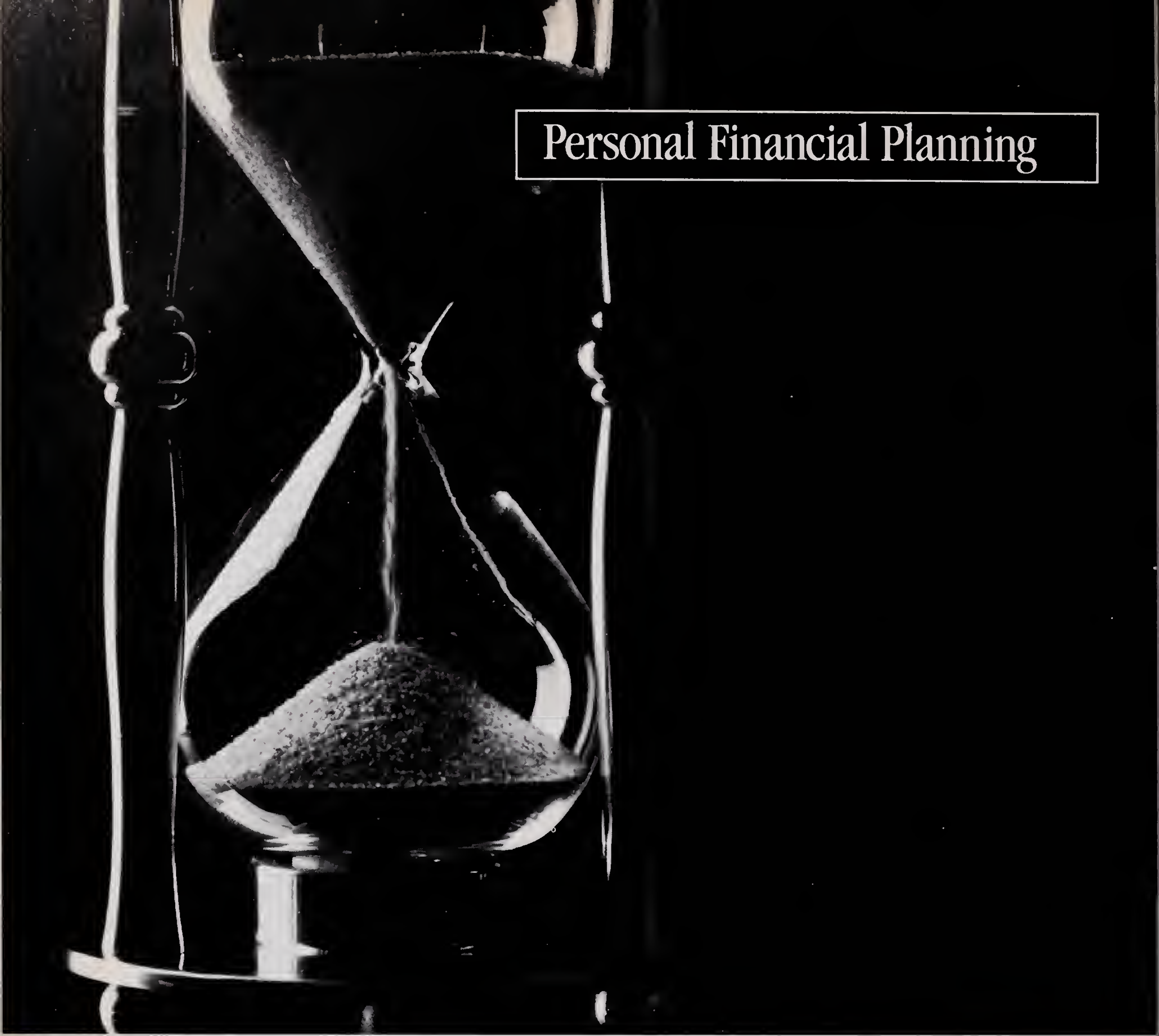
* Some of these statistics are from "Commentary," *American Journal of Public Health,* April 1986, V 76, No. 4, pp 430-433



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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

The Health Policy Agenda for the American People is developing a comprehensive framework for health care policy in our nation.

Evaluating health care issues

The Health Policy Agenda for the American People was initiated in 1982 to identify major health care issues and to develop a long-term plan addressing them. It is a broad-based effort that involves many business, government, consumer, and health-related organizations. While the impetus for this project came from the American Medical Association, it belongs to 172 diverse organizations that are working together to develop a comprehensive framework for health care policy and a basis for cooperative action.

Why is this of importance to Missouri physicians? The intent of this project is to provide a common basis for responding to health care issues as they arise today and in the years to come.

This monumental task is undertaken by 350 participants organized in three groups: work groups, an advisory committee, and a steering committee. Six work groups conducted the primary work, each addressing a different area on health care: medical science, health professions education, health resources, delivery mechanisms and processes, evaluation assessment and control, and payment for services. The 151-member advisory committee reviews their work, and then the 37-member steering committee gives final approval prior to release of the final report.

The steering committee has already approved 159 principles from Phase I of the two-phase process. A principle is a broad value statement of what should exist in a health care system. The principles form the foundation of the project, and together constitute the gauge by which policy proposals will be evaluated. Phase I also identifies 41 issue areas that are of critical importance to the future of health care in this country. These issue areas and the principles will result in policy proposals now being formulated during Phase II.

An issue is defined as a situation or circumstance that demands considered choice and is ready for action or decision. An issue may be considered either a problem or an opportunity. One example is the maintenance of professional competence of practitioners. The definition of the issue is that health care practitioners are responsible for updating and maintaining their scientific knowledge and technical skills throughout their careers. The pace of current scientific and technologic change makes continued education essential for all professionals.

Issue question: "How can health care professionals assure their continued competence during the course of their professional lives?"

The policy proposal is "The work group believes that primary responsibility for maintaining competence rests with the individual practitioner, but licensing boards and professional organizations also have the responsibility to assure professional competence. These

Continued on page 807

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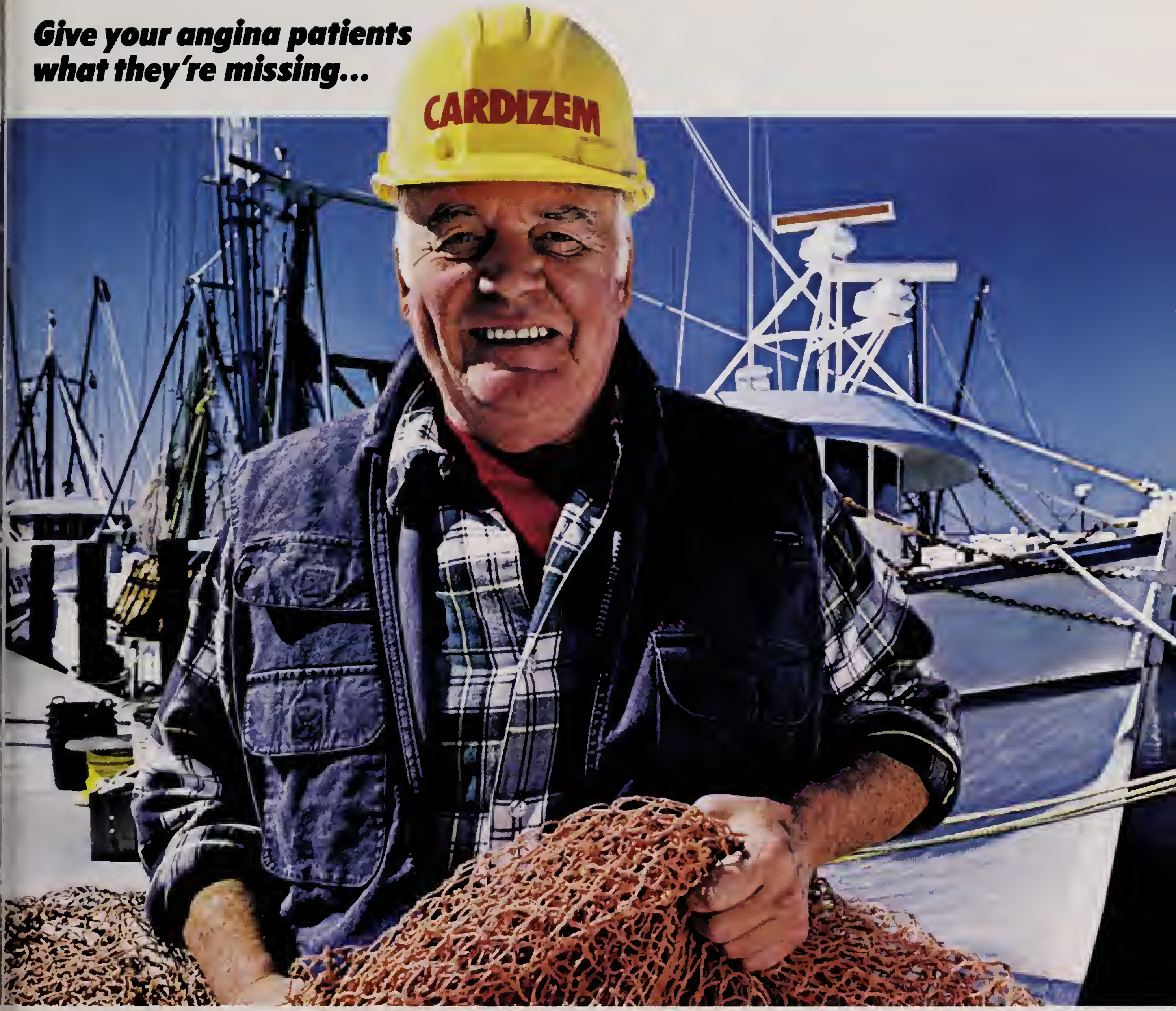

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- ***Antianginal action includes dilatation of coronary arteries, a decrease in vascular resistance/afterload, and a reduction in heart rate***
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****See Warnings and Precautions.***

Please see brief summary of prescribing information on the next page.

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Brief Summary
Professional Use Information
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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses at 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.
Nervous System:	Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.
Gastrointestinal:	Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.
Dermatologic:	Petechiae, pruritus, photosensitivity, urticaria.
Other:	Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.
Issued 11/85

See complete Professional Use Information before prescribing.

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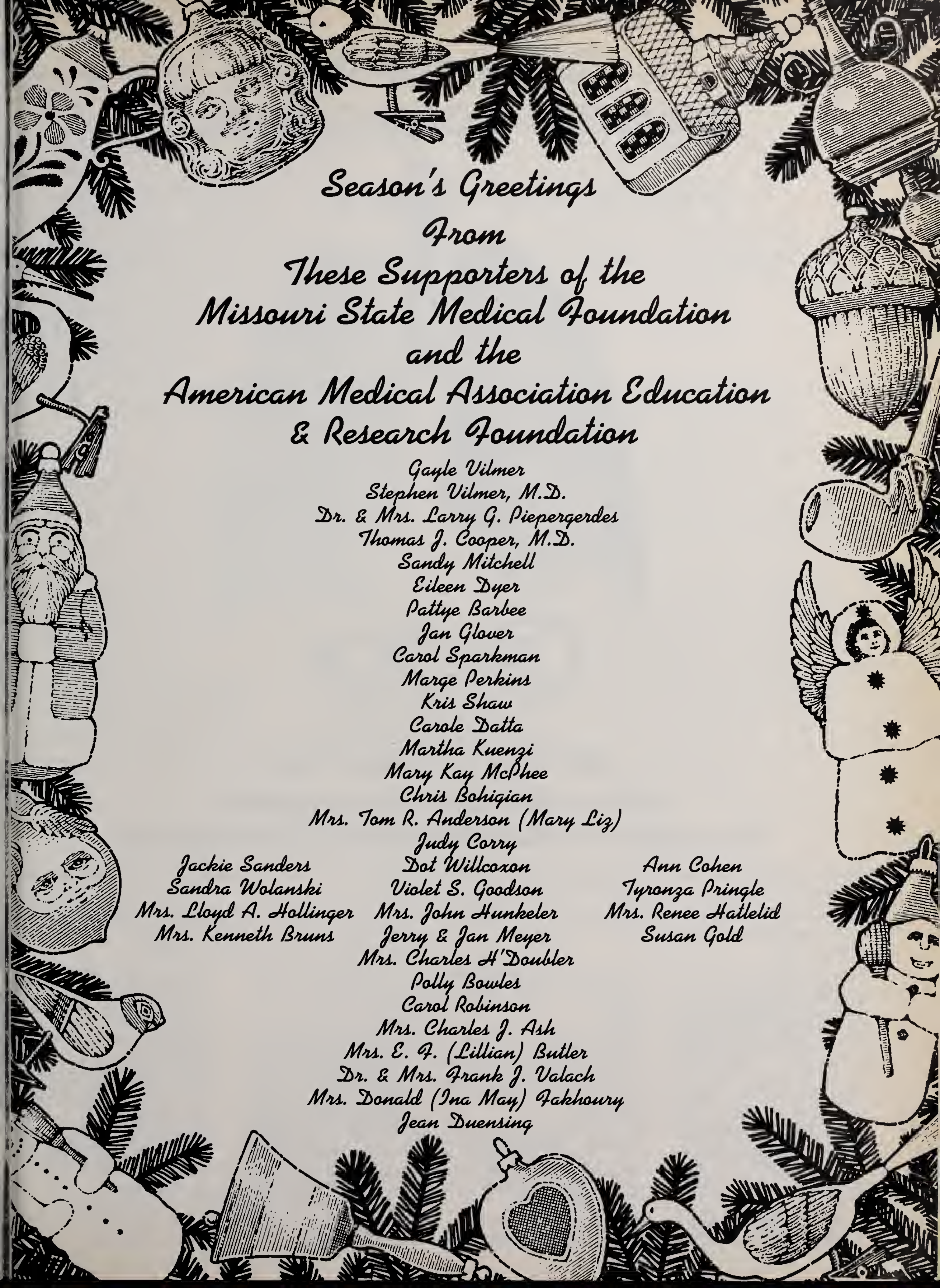

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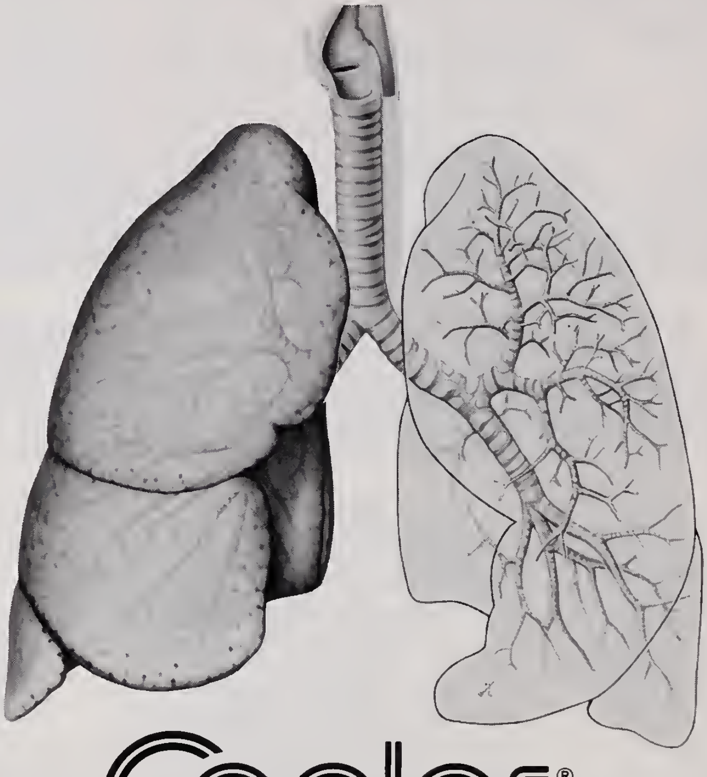

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250-mg Pulvules® t.i.d. offers effectiveness against the major causes of bacterial bronchitis

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Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
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Practice information book cuts phone calls, patient irritation

PRACTICE MANAGEMENT

by George S. Conomikes

"Many practices, in an effort to reduce patient confusion and to improve patient-physician-medical aide communications, have printed up their own practice information booklet."

"But my doctor used to make house calls!"

"My previous doctor gave me prescription refills when I wanted them."

"Why can't I talk to the doctor instead of the nurse?"

If you listened in on your office phone, as my colleagues and I have done at hundreds of practices, these are the sort of mini-complaints we constantly hear coming over the phone.

They require, in most cases, extended explanations of the way you practice medicine. Often your aides and even you become irritated by patient references to their exalted previous physicians (after all, why shouldn't you be on that pedestal?).

In the patients' defense, they often have a tough time figuring out your practice style. Every doctor is different, but how is the patient to know these differences?

The solution is a practice information booklet.

Many practices, in an effort to reduce patient confusion and to improve patient-physician-medical aide communications, have printed up their own practice information booklet. It can run anywhere from four to six pages depending upon the amount and variety of information you want to communicate.

You provide it to each new patient at the time you first take him on as a patient. Some physicians send it in the mail, before the patient comes in. Most provide it to the new patient when he/she arrives at the practice and is in the reception room.

Most physicians refer to it with their new patients to indicate that it is an important reference.

The contents can vary, depending upon your specialty, group size and other services rendered such as therapy, x-ray, lab work, office surgery, etc.

The main points to be communicated to the patient would be statements regarding each of the following:

- Explaining the practice specialty(ies).
- Practice hours.
- Coverage and after-hours calls.
- House calls.
- Emergency calls.
- Telephone calls and how the practice handles them.
- Prescriptions and renewals.
- Office visit fees.
- Insurance.

Practices that have designed their own practice information booklets have told us they have experienced the following positive results:

- Less patient confusion about practice procedures.
- Less phone traffic to the doctors and nurses.

Continued on page 815

my•o•pia

\mī-ˈō-pē-ə\: deficiency of foresight

SYMPTOMS: Most often observed in professionals who are inundated with day-to-day responsibilities. Dedicated to the needs of others, subject becomes focused on today... at the expense of tomorrow's full potential. May have complicated, expensive retirement plan with scattered investments and sometimes unfocused or nonexistent financial objectives. The lack of sufficient time and professional guidance may result in feelings of anxiety over future well-being of self, family and staff.

DIAGNOSIS: Financial myopia (common to this overworked peer group).

COMPLICATIONS: May not know where to turn for advice that is professional, comprehensive, personalized, flexible, diverse and *painless.*

R_x: As a member of the Missouri State Medical Association, you are eligible for treatment by highly qualified retirement planning specialists—no charge for initial consultation or subsequent quarterly or semiannual checkups. For security and peace of mind tomorrow (and possibly lower costs), call today for Michael Grimes - Director or Thomas Knapko - Associate Director at E.F. Hutton. Call collect 314-725-9690.

CONTRAINDICATIONS: None.

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Delayed Postoperative Pericardial Tamponade

Maria J. Brazil, M.D., John P. Merjavy, M.D., and John E. Codd, M.D.
Bridgeton, Missouri

Pericardial tamponade that occurs more than seven days after cardiac surgery is an insidious complication, rare but potentially fatal. Three cases and their course are described.

Delayed postoperative pericardial tamponade, defined as that occurring more than seven days following cardiac surgery, is a relatively uncommon, potentially fatal complication. The reported incidence ranges from 0.4%-6%.[1, 2] It has been most frequently associated with postoperative anticoagulation therapy in patients undergoing valve replacement, and to a lesser degree in patients with postpericardiotomy syndrome.

In 300 open heart procedures performed at DePaul Health Center, St. Louis, between October 1984, and December, 1985, three patients developed this complication. The patients' cases are described, followed by a discussion of incidence, etiology, diagnosis, and treatment of late postoperative pericardial tamponade.

Case Reports

Case 1: A 67-year-old woman underwent mitral valve replacement with a bioprosthetic valve in June, 1985. On the evening of her surgery, she developed low cardiac output that was unimproved with inotropes or intra-aortic balloon counterpulsation. She was returned to the operating room with a diagnosis of pericardial tamponade, and a median sternotomy was performed with extraction of clot. Oral anticoagulant therapy was begun on the fourth postoperative day. Prothrombin time remained within therapeutic range throughout her hospital course. She was progressing quite well until the 19th postoperative day, when she experienced a cardiac arrest from which she was unable to be resuscitated. Autopsy examination revealed a large amount of blood in the pericardial space.

Case 2: In September, 1985, a 37-year-old woman underwent aortic valve replacement. Her postoperative course was uncomplicated. She was discharged on the sixth postoperative day on a daily warfarin sodium (Coumadin) dose of 2 mg.

On the 10th postoperative day, she experienced severe abdominal, chest, and back pain accompanied by shortness of breath. She went to the nearest emergency room, where she was found to be hypotensive with a systolic blood pressure of 50, and a pulse of 130. Intravenous fluids were administered and her systolic blood pressure stabilized at 100. She was transferred by helicopter to DePaul Health Center.

Echocardiography, done immediately upon arrival, revealed pericardial effusion. She was taken to the operating room where a median sternotomy was performed and a liquified hematoma was evacuated. Her postoperative course was uncomplicated, and she was discharged on the 10th postoperative day.

Case 3: A 62-year-old man underwent aortic valve replacement in February, 1985. His postoperative period was complicated by postpericardiotomy syndrome. Oral anticoagulation therapy was begun on the fourth postoperative day. On the 14th postoperative day he complained of lethargy and nausea. He was noted to have orthostatic hypotension. A diagnosis of dehydration was made and he was treated with intravenous fluids. He became increasingly oliguric and exhibited a progressive low output state. The blood urea nitrogen level rose to 74 mg/dl. Anticoagulation therapy had been in therapeutic range until the day before, when the prothrombin time rose to three times control. Stool guaiac tests were negative and the hematocrit was stable. There were no red cells in the urine.

The patient was transferred to the intensive care unit and right-sided cardiac catheterization was performed. Hemodynamic measurements were as follows: cardiac index, 1.9 l/min; right atrial pressure, 28 mm Hg; pulmonary artery wedge pressure, 26 mm Hg. Blood pressure was 110/70 mm Hg. Echocardiography showed only a small increase in the amount of pericardial fluid, compared to measurements obtained four days earlier. Initially, improvement was seen with inotropic therapy. However, with a further drop in cardiac index to 1.5 l/min despite inotropic therapy, the patient underwent mediastinal exploration. A total of 3,500 ml of nonclotting, bloody fluid was drained. His hemodynamics and blood pressure immediately improved. Further postoperative course was uncomplicated, and he was discharged on the eighth postoperative day.

Discussion

The occurrence of late cardiac tamponade after open heart surgery was first reported in 1968 by Prewitt et al, who described two patients in whom pericardial effusions developed one month after prosthetic valve replacement.[3] While cardiac tamponade is a frequent occurrence in the early postoperative period, its occurrence seven or more days after operation is less common. Reported incidence ranges from 0.4%-6%.[1-5]

Many reports have documented the association between anticoagulant therapy and delayed postoperative tamponade.[2, 4-6] There is a lack of association, however, between the degree of anticoagulation and the occurrence of delayed tamponade.[2, 4] Bartolotti reported depressed prothrombin activity in three of 10 patients on anticoagulant drugs who developed delayed cardiac tamponade. All of our patients were receiving oral anticoagulants, and in two of these patients prothrombin activity was within therapeutic range throughout their hospitalization.

Postpericardiotomy syndrome has been associated with delayed pericardial tamponade to a lesser extent.[1, 2, 6] Postpericardiotomy syndrome occurs in 20%-30% of patients undergoing cardiac operations.[7] It is characterized by unexplained fever, chest pain, and a pleuropericardial reaction manifested by a friction rub.

Diagnosis of cardiac tamponade is often delayed because of the difficulty in differentiating cardiac tamponade from the other causes of a low cardiac output state.[8] Accumulation of blood or serous fluid occurs slowly but progressively, causing an insidious onset of symptoms. Clinical deterioration is thus likely to be attributed to heart failure or the lack of postoperative recovery of myocardial function. The patient may complain of malaise, weakness, shortness of breath, or chest pain. Physical examination may reveal tachypnea, tachycardia, hypotension, and oliguria. Evidence of elevation of venous pressure and paradoxical pulse may be absent.[9] There may be an increase in the loudness of the valve click in patients with a mechanical prosthesis.[10]

Management must be dictated by the severity of symptoms. Delayed recognition and treatment are associated with a high mortality.

An increase in the size of the cardiac silhouette on serial chest roentgenograms is a valuable sign of delayed pericardial tamponade.[2] There may also be a drop in hematocrit.

Swan-Ganz catheterization may be helpful in differentiating from pulmonary embolism and ventricular infarcts by demonstrating near equalization of right atrial, right ventricular, end diastolic and pulmonary capillary wedge pressures.[11]

Echocardiography can be a useful technique to demonstrate the presence of a pericardial effusion.[12] Its diagnostic value, however, is somewhat limited. While echocardiography has emerged as a sensitive study in the evaluation of the presence of pericardial effusion, the specifics are limited. The size or location of the effusion estimated by echocardiography may not correlate with the severity of symptoms.[12-14] Therefore, management must be dictated by the severity of symptoms. Delayed recognition and treatment are associated with a high mortality. Patients with hemodynamic evidence of cardiac tamponade must be aggressively managed with decompression either by pericardiocentesis or by operation.[1, 13] Operative therapy consists of creation of a pericardial window by the subxyphoid approach,[10] median sternotomy,[4, 8] or thoracotomy.[9] When decompression is performed by pericardiocentesis or a limited subxyphoid approach, the adequacy of decompression must be assessed by hemodynamic monitoring. A rise in mean arterial pressure, fall in right atrial pressure, and return of right ventricular pressure to normal indicates adequate decompression. If this does not occur, a more extensive approach is necessary. In addition, if the initial approach is pericardiocentesis, recurrences are possible, requiring multiple pericardiocenteses and ultimately pericardiectomy.[15]

In conclusion, immediate recognition of this complication is of prime importance. Unfortunately, the clinical picture of delayed postcardiotomy tamponade is nonspecific, and making the correct diagnosis poses the major problem. The condition develops late in the postoperative course, after monitoring devices have been removed and the patient is on the general ward. The onset of tamponade is insidious and the symptoms nonspecific. For these reasons, mortality associated with this condition has been high, up to 43% in some reports.[6] Awareness and a high index of suspicion are of prime importance in the recognition and prevention of the high mortality associated with late postoperative pericardial tamponade.

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Indications for Breast Preservation in Stage I and Stage II Cancer of the Breast

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Conservative surgery for the treatment of breast cancer continues to be controversial. This review outlines some of the criteria for selecting patients for conservative surgery. An overview of results from recent clinical trials is also presented.

The second leading cause of cancer death in women is cancer of the breast.[1] For this reason and because of the social and cultural implications of its treatment it is a major health problem deserving continued attention. The past twenty years have witnessed a major shift in the understanding of the natural history of breast cancer. This shift has made an impact in the treatment of breast cancer, causing much controversy and confusion. This report reviews the historical progression of the understanding of how breast cancer advances and the impact this has had on the treatment of clinical stages I and II breast cancers.

Historical Perspective

Prior to the development of the Halstedian radical mastectomy in 1894, the average local recurrence rates for patients who had surgical treatments for breast cancer ranged between 50% and 70%.[2] Halsted, in 1894, reported his results using radical mastectomy as treatment for primary cancer of the breast.[2] This operation included removal of a large area of skin, the breast tissue, the contents of the axilla, and the pectoralis major and minor muscles. The purpose of this procedure, as outlined by Halsted, was to remove not only the primary tumor but the lymphatics — an area to which the tumor commonly spreads. Two factors led to the development of this procedure. First, the theoretical understanding of how breast cancer progressed suggested that the tumor began at the primary site, and as the tumor increased in size, it metastasized to the axillary lymph nodes. When the tumor began to grow in the axillary lymph nodes, tumor cells would begin to escape to the systemic circulation and hematogenous metastasis would subsequently develop. The second important factor was the large number of patients who presented with advanced local disease at the site of the primary tumor and advanced regional disease, in the form of lymphatic metastasis. By using the radical mastectomy as a therapeutic modality Halsted was able, at the turn of the century, to reduce the incidence of local recurrence from between 50% and 70% to about 6%.[2] Knowledge of these important historical events improves the understanding of the controversy that still surrounds the management of stage I and stage II breast cancers.

The radical mastectomy does not address the potential problem of internal mammary lymph nodes. If one accepts the concept that tumors progress from the primary site to the lymphatics and hematogenous metastasis subsequently occurs, it is reasonable to include resection of the internal mammary lymph nodes in the radical mastectomy. In fact, the "extended radical mastectomy" does include resection of the internal mammary lymphatics. This procedure is a natural extension of the theory of orderly progression of metastasis. Veronesi reported on 737 patients randomized into two groups that were treated either with extended mastectomies or radical mastectomies.[3] There was no significant advantage in survival rates in patients treated with extended radical mastectomies. However, it is noteworthy that the incidence of cancer-positive internal mammary lymph nodes in the extended radical mastectomy group was 75 out of 344, whereas the incidence of parasternal recurrences in the radical mastectomy group was only 15 out of 372. This suggests that a percentage of patients with metastasis in the radical mastectomy group did not have progression that involved their nodes.

Acceptance of conservative surgery for breast cancer requires a different theoretical understanding of how cancer of the breast progresses and metastasizes.[4] Such a theory indicates that there is a unique relationship between various breast tumors and their host. In some circumstances, the tumor may metastasize early in the natural history of the breast cancer either through the lymph nodes and ultimately systemically, or directly into the bloodstream. In other circumstances the tumor may not metastasize at all. Two major factors which impact on whether or not the tumor will progress and result in the death of the host are the host's ability to effectively combat the malignancy and the inherent aggressiveness of the tumor.

An early paper that addressed conservative treatment of breast cancer was written by Peters in 1967 and presented four similar groups of patients treated between 1935 and 1960.[5] Group A was treated with excisional biopsy and radiation therapy only. Group B was treated with excisional biopsy, radiation therapy, and mastectomy. Group C was treated with excisional biopsy, mastectomy, and postoperative radiation therapy. Group D was treated with mastectomy after a quick frozen section biopsy, and postoperative radiation therapy. Five- and ten-year survival rates for these four groups were essentially equivalent. In this study, the problem of local recurrence was not addressed. Peters' paper is an example of several early papers (the majority were from outside the United States) that evaluated local excisional therapy and radiation therapy.

In the United States the movement toward lesser surgical therapy for treatment of breast cancer was implemented through the modified radical mastectomy. This procedure consists of the removal of the breast and the axillary contents, but the pectoralis major muscle is always preserved. This operation was popularized by Auchincloss and Madden in the United States.[6, 7] Early non-randomized trials suggested that there was no significant difference in survival following this type of surgical intervention when compared to historical controls who received radical mastectomies. A large study performed by the American College of Surgeons demonstrated a significant change in surgical practice between 1972 and 1981, with the increasing use of modified radical mastectomy and the decreasing use of the radical mastectomy.[8] In 1980, Turner et al reported on 534 patients with clinical stage I and stage II cancer who had been randomized into two groups: a radical mastectomy group and a modified radical mastectomy group.[9] The five-year total survival and disease-free survival rates were essentially the same in both arms of this trial. Maddox reported a randomized series in 1983, demonstrating no difference in survival.[10]

Recent Randomized Clinical Trials

The first of these trials is the National Surgical Adjuvant Breast and Bowel Project, B-04 Trial (B-04).[11] This trial addresses the question of the value of prophylactic removal of regional lymph nodes. Patients with clinical stage I breast cancer were randomized for treatment with radical mastectomy, total mastectomy plus radiation to the chest wall and regional lymphatics, or total mastectomy alone. Women with clinically involved axilla were randomized to treatment with either radical mastectomy or total mastectomy and radiation therapy. In order to be selected for the B-04 trial, patients were required to have tumors confined to the breast or breast plus lymph node involvement on the same side, and a primary tumor of 4 cm or less, which was free from skin, muscle, and chest wall. Since the breast was totally removed in all cases, the variation in treatment was principally in the management of the lymph nodes. An important aspect of the design of this trial was that treatment failure in the untreated axilla of the total mastectomy group who did not receive radiation therapy was managed by an axillary dissection, and was not counted as a treatment failure unless there was another subsequent recurrence. One of the most interesting results in the three groups with clinically negative axilla, was that a surprising 39% of the patients who underwent radical mastectomies had occult metastases in their lymph nodes. There was no significant difference among the three groups with clinically negative nodes with regard to disease-free survival or the probability of treatment failure. It is interesting to note that only 16% of those patients receiving mastectomy alone developed clinical evidence of axillary involvement requiring axillary dissection. This suggests that there is a percentage of patients who have clinically occult metastasis which does not progress to cause a clinically active disease. Also of importance: there was no significant difference in distant disease occurring as a first treatment failure among the three groups, whereas local and regional disease was best controlled in the group receiving radiation therapy. When looking at patients with positive axillary nodes, who were treated either by total mastectomy and radiation therapy or radical mastectomy alone, there was no significant difference in either distant metastasis in these two groups, nor local regional metastasis. Finally, and most importantly with regard to survival, there was no significant difference in negative-node patients treated with the three different modalities versus the positive-node patients.

Prophylactic axillary dissection does not contribute to increased survival compared to delayed therapeutic dissection.

The authors concluded the location of the tumor in the breast does not influence prognosis. This study does not support other studies which suggest that medially placed tumors do worse than laterally placed tumors. With the conditions of the B-04 study, radiation therapy does not improve survival. The results at five years accurately predict the outcome at 10 years. Variations of local and regional treatment, used in the B-04 study, are not important in determining the survival of patients with breast cancer. Axillary dissection is an important staging procedure for predicting occult metastasis and identifying patients who are candidates for adjuvant therapy. Prophylactic dissection improves the regional control of the disease. In the B-04 study, axillary dissection reduced the occurrence of metastatic disease to the axilla from 16.4% in those patients with no treatment, to 1.4% in those patients who undergo prophylactic axillary dissection. Radiation therapy was equally effective in reducing the occurrence of axillary node metastasis. The low frequency of recurrence in the axilla after a complete axillary dissection obviates the need for irradiation to that area. Importantly prophylactic axillary dissection does not contribute to increased survival compared to delayed therapeutic dissection.

The Milan trial was a well-designed surgical/clinical trial from the National Cancer Institute in Milan, Italy. About 12 years ago a prospective randomized trial was begun, comparing the traditional Halstedian radical mastectomy with conservative resection and radiation therapy.[12] The limited procedure consisted of resection of a full quadrant of the breast along with an axillary dissection. The breast resection included the overlying skin and underlying fascia of the pectoralis major muscle and was defined as a "quadrantectomy." When the tumor was located in the upper outer quadrant of the breast, the quadrantectomy and axillary dissection were done in continuity. In other cases, two incisions were used. Surgical treatment was followed by radiation therapy of the ipsilateral mammary tissue with a total administration of 6000 rad. The trial was limited to patients with primary cancers less than 2 cm in diameter and to patients without clinically palpable axillary lymph nodes. Seven hundred and one patients were randomized between radical mastectomy and quadrantectomy, axillary dissection and radiation therapy. The ten-year crude survival rate was not different in these two groups. There was no difference in the 10-year relapse-free survival rate. The study concluded that for tumors less than 2 cm in size with clinically negative axilla, there was no difference between patients treated with quadrantectomy axillary dissection and radiation therapy and those treated with radical mastectomy.

The NSABP B-06 (B-06) protocol was designed to evaluate the effectiveness of segmental mastectomy for breast preservation, whether radiation therapy would reduce the incidence of tumors occurring in the ipsilateral breast following segmental mastectomy and whether breast conservation would result in a greater risk of distant disease and mortality than does mastectomy.[13] The B-06 protocol is complementary to the NSABP B-04 (B-04) protocol and asks the same question for the breast that B-04 asked about the lymph nodes. In addition, the B-06 protocol was designed to evaluate the clinical importance of a major inhibition among surgeons for performing breast conservation surgery — the multicentric occurrence of tumors in the breast.

In the B-06 study, patients were randomized into total mastectomy plus axillary dissection, or segmental mastectomy plus axillary dissection with or without 5000 rad radiation therapy to the breast. The conservative operation — the segmental mastectomy — removed only the amount of breast tissue sufficient to insure that the margins of the resected surgical specimen were tumor-free. A patient could be assigned to this study if the tumor was confined to the breast and ipsilateral nodes on clinical examination and the primary tumor was 4 cm or less at its greatest dimension and movable in relation to the skin, muscle, and chest wall. It was required that all segmental mastectomy specimens be examined pathologically to insure that the margins were tumor-free. A total mastectomy was carried out at the time of the segmental mastectomy if it was impossible to obtain a tumor-free margin. If postoperative microscopic examination noted a tumor on the specimen margin, total mastectomy was done. The patients in the two segmental mastectomy arms of the study who subsequently developed tumors in the breast operated on, were also treated by total mastectomy and continued in the study. These patients remained in the original group to which they were assigned. They were considered to have cosmetic failure but were not classified as having a treatment failure unless the extent of the tumor present prevented its complete removal by mastectomy. Occurrence of tumor in the chest wall and operative scar, but not in the ipsilateral breast, were classified as local treatment failures. Those in the internal mammary, supraclavicular or ipsilateral axillary nodes were designated as regional treatment failures. All patients in the study who had one or more positive axillary nodes received systemic and adjuvant therapy, which consisted of 1-phenylalanine mustard and 5-fluorouracil (L-PAM and 5-FU).

Statistical analyses were carried out for all patients randomized, regardless of treatment accepted, and for all eligible patients who accepted the assigned therapy and had follow-up. This report was a five-year life table estimate obtained from a mean follow-up of approximately 39 months. The conclusions with regard to both analyses were the same; therefore, the latter was presented.

A comparison of segmental mastectomy versus segmental mastectomy plus radiation therapy revealed that radiation therapy markedly decreases the incidence of recurrence. Only 7.7% of those receiving radiation therapy developed a recurrence of the tumor in the operated breast (projected at five years), as compared to 27.9% managed with segmental mastectomy without radiation therapy.

Examination of recurrences from the onset of treatment revealed that in all three groups, more than half of the first reported treatment failures were distant recurrences. Second cancers and other causes of death were distributed equally throughout the three treatment groups. Examining patients treated with total mastectomy and segmental mastectomy revealed similar distant disease-free survival and survival curves. There was a trend toward improved survival in the segmental mastectomy group. This trend was not statistically significant. When comparing segmental mastectomy plus radiation therapy with total mastectomy, the disease-free survival is improved in the segmental mastectomy plus radiation treatment group ($p = 0.04$). There is also a trend toward improved overall survival in this group ($p = 0.07$). Comparing segmental mastectomy and segmental mastectomy plus radiation therapy demonstrated a difference in disease-free survival in favor of the irradiated group overall ($p = 0.02$).

There was no difference in distant disease-free survival or overall survival. The B-06 protocol demonstrates the value of breast irradiation in reducing the incidence of recurrence occurring in the ipsilateral breast following segmental mastectomy. Since all patients with positive nodes who receive radiation also receive systemic chemotherapy, the contribution of both treatments to the inhibition of breast cancer recurrence cannot be identified in this study. The observation that tumors occurring in the breast subsequent to segemental mastectomy were fewer in positive node patients (all of whom received a course of chemotherapy prior to starting radiation therapy) than in those with negative nodes (who received no chemotherapy) suggests that the two therapies may have been additive, if not synergistic, in their effect.

The researchers conclude that segmental mastectomy and radiation therapy is suitable for the initial treatment of breast cancers that are no larger than 4 cm and do not involve the skin or underlying muscle, provided that local tumor excision may be achieved with tumor-free specimen margins and with a satisfactory cosmetic result, and provided that patients with positive lymph nodes receive chemotherapy.

A comparison of segmental mastectomy plus radiation therapy revealed that radiation therapy markedly decreases the incidence of recurrence.

Harris and his co-authors reported on the use of pathologic features in selecting the extent of surgical resection necessary for breast cancer patients treated by primary radiation therapy.[14] This paper is from the Joint Center for Radiation Therapy in Boston, Mass. This center has been a major proponent of lumpectomy and radiation therapy for the treatment of breast cancer patients. Between 1968 and 1979, there were 226 patients with stage I and stage II cancer of the breast who were treated with lumpectomy and radiation therapy. These patients were evaluated retrospectively. In a review of their data, the authors have identified a small subset of patients, comprising 18% of the total, who were at increased risk for local recurrence. This group was identified by the presence of a constellation of three pathologic features in the excisional specimen:

1. Moderate or marked intraductal carcinoma in the primary tumor.
2. Intraductal carcinoma in grossly normal breast tissue adjacent to the primary tumor.
3. Poorly differentiated nuclei.

Patients whose tumors had all three features had a 37% actuarial risk of local recurrence at five years, compared to 4% for patients whose tumors showed none, one, or two of these features. Furthermore, the survival rate at six years was significantly worse for patients who had all three features compared to patients who had fewer than three of the features (69% versus 90%). A boost of radiation therapy decreased the high rate of true recurrence, but there continued to be a high incidence of marginal recurrence, outside the area of the breast treated with the radiation boost. This suggests a greater volume of tumor was present than was originally suspected. The researchers suggest these criteria may identify a group of patients who should have mastectomies or a wider resection of their breast tumors.

Conclusion

It is not the purpose of this review to discuss whether breast cancer should be treated with modified radical mastectomy or conservative surgery. However, it should be noted that conservation breast surgery was developed to decrease the morbidity and adverse emotional impact of the treatment of breast cancer and will not improve the survival results of patients treated.

With this preface, what can be said about selecting patients for conservative operations for breast cancer? Anatomic features which would make a patient a poor candidate for segmental resection of the breast include nipple involvement, large tumors in small breasts, and tumors of advanced staging. Most breast surgeons using conservative surgery would recommend against using the procedure in patients with nipple involvement. However, some surgeons would resect the nipple and tumor and use the remaining breast tissue to reconstruct the breast and nipple.[15] In the B-06 protocol, patients with larger tumors had a higher incidence of positive margins and consequently required mastectomy more often than patients with small tumors. Also, patients with small breasts and large tumors are less likely to have a good cosmetic result. The randomized trials presented here have all been conducted under circumstances where the margins were negative following local resection of the breast tumor. These studies do not address the case of positive margins. To achieve comparable results, the margins of the surgical specimen must be carefully assessed and mastectomy performed when the surgeon is unable to obtain tumor-free margins. For the patient, treatment of breast cancer with conservation surgery is more complicated than with modified radical mastectomy. These patients must undergo a wide excision of their primary tumor and axillary dissection. They must then be treated with a four- to six-week course of radiation therapy, requiring daily visits to a radiation therapist experienced in the treatment of breast cancer. In those patients who have positive axillary lymph nodes, a chemotherapy regimen must be interspersed with the course of radiation therapy. Despite this complicated treatment regimen, these patients will still be at a continuing risk for local recurrence and subsequent mastectomy. In the NSABP B-06 study, 10% of the patients treated with segmental mastectomy required total mastectomy because of positive specimen margins. In addition, there was a 7% incidence of recurrence following segmental mastectomy and radiation therapy. With a five-year follow-up the incidence of mastectomy in the segmental resection and radiation therapy group could be as high as 15%-20%.

Two additional factors need to be considered. As reviewed above, the histopathology of tumors needs to be carefully evaluated. Also, the long-term effect of radiation therapy in a relatively young population such as this has not been well defined. Some increase in incidence of cancers in the contralateral breast and the thyroid might reasonably be expected.

Conservative surgery has been evaluated carefully in randomized trials. Follow-up in these trials ranges between five and 10 years. Review of these studies suggests that this form of therapy may be considered in selected patients — provided there is clear understanding of the characteristics of proper patient selection and the complexities and limitations such studies have shown to date. In addition, prospective candidates for conservation breast surgery must understand the necessity for close follow-up and the possibility of an eventual mastectomy.

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Acute Alcoholic Myopathy and Ruptured Popliteal Cysts

The Pseudothrombophlebitis Syndrome Revisited

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The case of a patient with calf pain and swelling, initially considered to be due to ruptured popliteal cysts, with secondary myopathy, is presented. Treatment for ruptured popliteal cysts, resulted in transient improvement. The final diagnosis of acute alcoholic myopathy came only after an accurate history of alcoholism was elicited from the patient.

Acute alcoholic myopathy usually develops abruptly in chronic alcoholics following bouts of binge drinking. Pain and swelling of muscles, often accompanied by muscle weakness, may be localized to discrete muscle groups, especially in the legs.[1] It has been noted previously that acute alcoholic myopathy of the leg muscles can be confused with deep vein thrombosis (DVT).[2] Included also in the differential diagnosis of DVT is a thrombophlebitis-like syndrome which can occur in association with popliteal cysts.[3] We report a case of acute alcoholic myopathy of the leg muscles presenting the clinical picture of deep vein thrombosis in a patient who had coincident ruptured popliteal cysts.

Case Report

A 40-year-old white man was admitted to the hospital for evaluation of bilateral calf pain and swelling. He had been well until 10 weeks before admission, when he noted the onset of slowly progressive pain and swelling in the right popliteal fossa. Four weeks before admission, he had experienced the onset of pain and swelling in the left popliteal fossa. At the time of admission to the hospital, he was unable to walk due to severe pain in the popliteal areas and calves of both legs. He denied any past or present history of pain or swelling in the knee joints. He admitted to drinking two to three cans of beer daily, but adamantly denied the use of distilled spirits or illicit drugs. There was no history of exposure to known myotoxins.

Results of the physical examination were entirely normal, except for the lower extremities. There was tenderness and induration in both posteromedial calves, extending distally to mid-calf level. Palpation revealed ill-defined fullness in both popliteal fossae. There were bilateral plantar flexion contractures of the ankles, which prevented the patient's standing with his feet flat on the floor.

Laboratory examination disclosed normal values for white blood cell count, hemoglobin, electrolytes, urea nitrogen, creatinine, and urinalysis. An electrocardiogram gave normal results, and the Westergren sedimentation rate was 24 mm/hr. Creatine kinase was elevated to 3880 U/l (normal 3-48 U/l) as was the aldolase, to 20.7 U/l (normal 0-11 U/l). Radiographs of the chest and knees, ultrasound examination of the popliteal spaces and calves, and venograms of the lower extremities were all normal. Knee arthrograms revealed the presence of large popliteal cysts bilaterally, with some extravasation of contrast material immediately inferior to the cyst cavities (Figs 1a and 1b). Electromyography showed changes consistent with focal myopathy of both upper medial gastrocnemius muscles (Table 1). Nerve conduction studies revealed decreased compound muscle action potentials in the left posterior tibial nerve and low amplitude sensory action potentials in both sural nerves.

The initial impression was that of pseudothrombophlebitis syndrome secondary to bilateral popliteal cysts, with focal gastrocnemius myopathy secondary to compression by the cysts, and or chemical irritation by their contents. Treatment consisted of bed rest, and administration of intraarticular steroids and low-dose oral prednisone. There was subsequent improvement in pain and swelling, and the serum creatine kinase level decreased. The patient was discharged on the ninth hospital day, but failed to keep a scheduled follow-up appointment.

Three months later, a second hospital admission was prompted by the recurrence of pain and swelling in the left popliteal area. Physical examination showed erythema, swelling, and tenderness in the left popliteal space and left upper medial calf. Swelling and erythema also extended anteromedially into the midthigh. The white blood cell count was 12,000 with a left shift, and the Westergren sedimentation rate was 60 mm/hr. The serum thyroxine level was normal. The creatine kinase level was again elevated at 2607 U/l. Electromyography revealed normal findings in the upper extremities, with persistent evidence of myopathy in both upper medial gastrocnemius muscles,

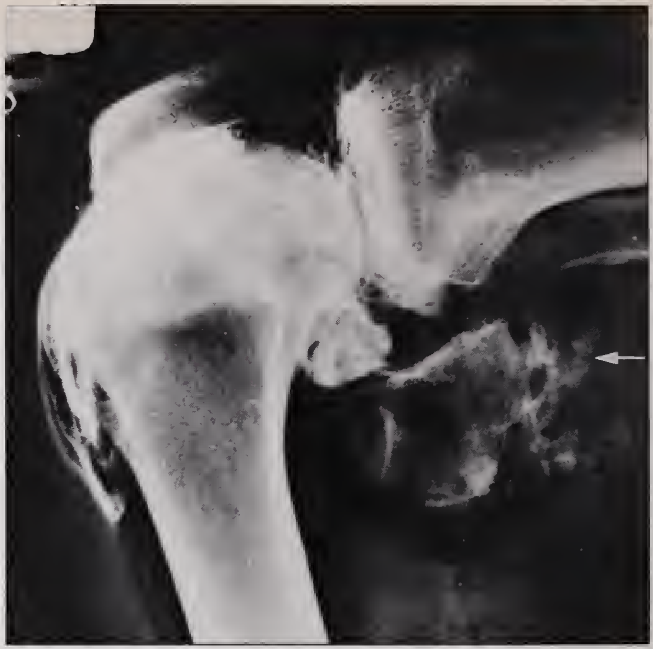

Fig 1a: Double contrast arthrogram of left knee, showing a very large popliteal cyst outlined by air and contrast medium. Also note two inferior, small, irregular areas of contrast pooling, indicating probable rupture (arrow).

Table 1

Results of Electromyography

Muscles	*Nerve*	*Spontaneous Activity**	*Voluntary Activity***
Left vastus medialis	Femoral	—	Normal MUP
Left biceps femoris	Sciatic	—	Normal MUP
Right and left gastrocnemius lateral parts	Posterior tibial	—	Normal MUP
Right abductor hallicus	Posterior tibial	0	Normal MUP
Left gastrocnemius upper medial part	Posterior tibial	+3	None
Left gastrocnemius lower medial part	Posterior tibial	—	Normal MUP
Right gastrocnemius upper medial part	Posterior tibial	+2	A few MUP
Right gastrocnemius lower medial part	Posterior tibial	0	Polyphasic MUP of short duration

*Spontaneous activity: fibrillation and/or positive sharp wave potentials.
**MUP: motor unit potential.

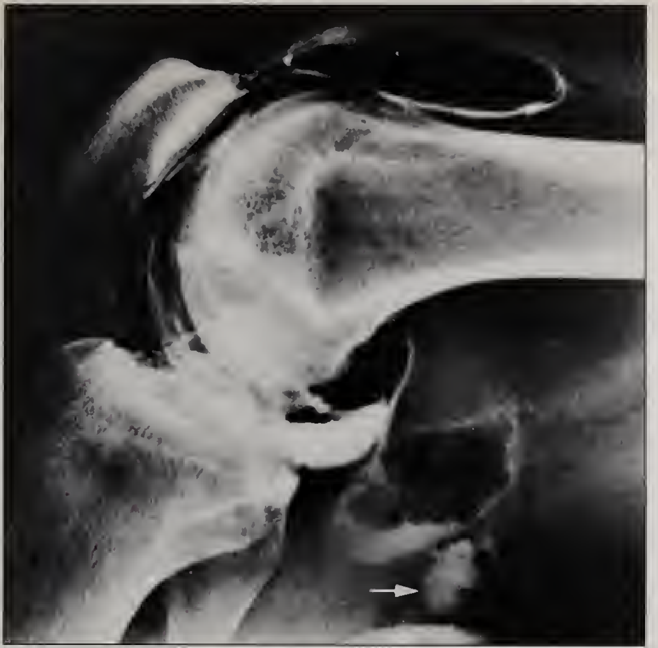

Fig 1b: Double contrast arthrogram of right knee, demonstrating a large popliteal cyst with extension inferiorly into the calf (arrow).

though there had been improvement on the right side as compared to the previous study. Intravenous antibiotic therapy was given for presumed cellulitis. Muscle biopsy was proposed, but the patient refused. Five days after admission, the creatine kinase had decreased to 1000 U/l, and there was marked improvement in the physical findings. The patient was fully ambulatory by the seventh hospital day, and was discharged on a regimen of oral antibiotics. He again failed to keep scheduled follow-up appointments.

Three months after the second hospitalization, he presented to the emergency room in an intoxicated state, with a one-week history of pain and swelling involving the left upper calf, popliteal fossa, and upper medial thigh. He admitted to having drunk one quart of whiskey and six to eight cans of beer daily for the preceding two weeks. Furthermore, he admitted that he had previously withheld information regarding his actual alcohol consumption. He had been drinking six cans of beer daily, with frequent binge drinking of whiskey, for at least the preceding two years. Again there was tenderness and induration of the left upper medial calf and popliteal space, now extending proximally to 6 cm above the knee joint line. Creatine kinase was 2644 U/l. A test for urine myoglobin was negative. Bilateral vastus medialis muscle biopsies were done. The biopsies of the right and left vastus medialis muscles were markedly different, with that on the right showing only occasional atrophic fibers and rare fibers with myophagocytosis. The biopsy on the left (Fig 2), however, showed a severe myopathic process with large numbers of necrotic and regenerating fibers and fibers undergoing phagocytosis. Occasional ragged red fibers were noted. Internal nuclei were prominent. Focal endomesial fibrosis was present, primarily in an area where fiber degeneration and atrophy were found. "Motheaten" fibers were numerous. Randomly distributed atrophic fibers were easily found and were primarily Type II. No inflammation was present in endomysium or perimysium. A diagnosis of acute alcoholic myopathy was made. The patient improved with rest and abstinence from alcohol. He was discharged on the 12th hospital day, but again has been lost to follow-up.

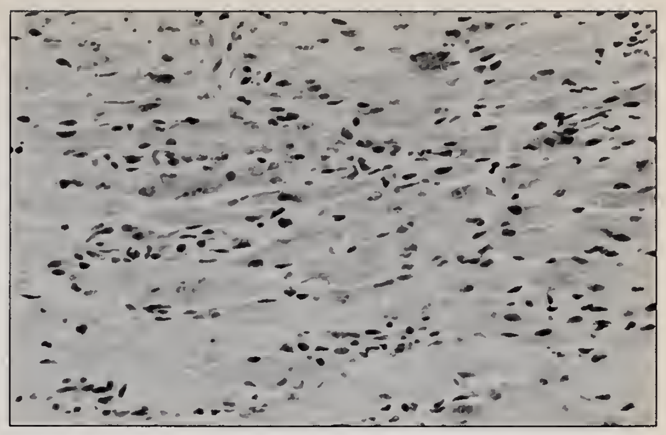

Fig. 2: Biopsy of left vastus medialis. Many fibers undergoing phagocytosis and regeneration are seen. There is mild edema of the endomesium. (Hematoxylin and eosin, X250).

Discussion

This patient presented a difficult and interesting diagnostic challenge. The diagnosis of alcoholic myopathy was delayed as a result of several confounding factors, including the absence of a history of alcohol abuse, and an intervening bout of cellulitis. The greatest source of confusion, however, was the striking similarity of his clinical picture to that of the thrombophlebitis-like syndrome associated with popliteal cysts.

Popliteal cysts have been described in patients both with and without underlying chronic knee joint conditions, though most cases occur in the setting of previous arthritis or trauma of the knee joint.[3, 4] Such history of a prior knee disorder can provide a useful clue in the evaluation of a patient with pain and swelling of the calf. Popliteal cysts arise most commonly as a result of fluid distension of the gastrocnemiosemimembranosus bursa, via the bursal communication with the knee joint.[5] Complications of popliteal cyst formation include cyst rupture or dissection into the calf,[3] invasion of the popliteal artery by synovial extensions from cysts,[6] popliteal vein compression,[7] and neural compression.[8] One of the most troublesome complications is that of dissection or rupture of a cyst into the soft tissues of the calf, which frequently results in a syndrome that is clinically indistinguishable from deep vein thrombosis, i.e. the pseudothrombophlebitis (PTP) syndrome.[3] The PTP syndrome may even occur in the presence of intact, nondissecting popliteal cysts.[4] Although the physical examination is often not helpful in distinguishing between true deep vein thrombosis and the PTP syndrome, radiographic and ultrasonographic studies are of great utility.[3] Contrast venography will show thrombosis of the deep leg veins, if present. Once venous thrombosis is ruled out, ultrasound examination of the calf and popliteal space is the initial procedure of choice for establishing the presence of popliteal cysts.[9] If the ultrasound findings are negative, contrast arthrography of the knee can definitively establish the presence or absence of popliteal cysts.[3] Although muscle injury has not previously been described as a complication of either venous thrombosis or popliteal cysts, it does seem possible that such injury could complicate the latter as a result of muscle compression from a very large cyst.

Alcoholic myopathy is manifest in two main clinical forms[10]: 1) asymptomatic, subclinical myopathy, 2) acute myopathy with muscle pain and or rapidly developing muscle weakness.

Subclinical alcoholic myopathy is usually characterized by elevated levels of serum muscle enzymes in chronic alcoholics. This form is usually asymptomatic, though mild muscle cramping may occur.[10-12] Elevated creatine kinase levels usually return to normal within five to seven days of cessation of drinking, and muscle biopsies typically show minimal or no pathologic changes.[11]

Acute alcoholic myopathy often begins suddenly with muscle pain or cramping, following a prolonged drinking binge. It may also present as rapidly developing muscle weakness. Swelling, tenderness, and spasm of discrete muscles or muscle groups is usual, commonly involving the calf muscles, quadriceps, or upper arm muscles.[10, 13] When the disease is limited to the calf muscles, the history of alcohol abuse and antecedent muscle cramps can aid in differentiating this condition from calf vein thrombosis. Diagnostic tests, however, are more helpful in suggesting alcoholic myopathy. In alcoholic myopathy, serum creatine kinase levels are usually elevated, and myoglobinuria may result in renal failure.[10] Electromyographic changes are variable, and this study is often not helpful in making the diagnosis.[1] In the present case, the electromyogram was a source of some confusion, due to the fact that it showed very well localized abnormalities in the areas of the gastrocnemius muscles adjacent to the popliteal cysts. Muscle biopsy will provide a definitive diagnosis in most instances, and should be undertaken when the patient's history and laboratory test results are suggestive of alcoholic myopathy. Histologic examination will reveal fragmentation, necrosis, and regeneration of muscle fibers, along with interstitial edema. Inflammation is usually minimal or absent.[4] The mechanism by which ethanol produces muscle injury is unknown, though a relationship between the severity of symptoms and the quantity of ethanol ingested has been noted.[2, 15, 16]

Though a chronic polymyopathy has been attributed to alcohol toxicity,[10] the existence of such a syndrome is questionable. Most reported cases of chronic alcoholic polymyopathy have occurred in patients with alcoholic polyneuropathy. The neuropathy probably accounts for the chronic muscle weakness and wasting observed in such cases.[17]

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Drs. Gaunt, Ansbacher and Cope are from the University of Missouri-Columbia School of Medicine. Dr. Moon is from the Eastern Virginia School of Medicine, Norfolk.

Reprints

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New Members

■ **Brad J. Angelos, M.D.,** 1012 N. Main, Sikeston 63801, has become a member of the SEMO County Medical Society. Dr. Angelos received his preliminary education at the University of South Dakota and his medical degree at Creighton University in 1980. He completed his residency training at the University of Kentucky. He specializes in nephrology and internal medicine.

■ **Walter C. Ashcraft, M.D.,** 2310 Truman Blvd., Crystal City 63019, has become a member of the Jefferson County Medical Society. Dr. Ashcraft received his preliminary education at Kansas University and his medical degree at Kansas University in 1964. He completed his residency training at Kansas University Medical Center. He specializes in general surgery and thoracic surgery.

■ **Michael R. Banton, M.D.,** 4256 Maryland Ave., Apt. 1 West, St. Louis 63108, has become a member of the St. Louis Metropolitan Medical Society. Dr. Banton received his preliminary education at Johns Hopkins University and his medical degree at St. Louis University in 1985. He is completing his residency training at Barnes Hospital. He specializes in psychiatry.

■ **Gary W. Breipohl, M.D.,** 1329 E. 32nd St., Suite 2, Joplin 64803, has become a member of the Jasper County Medical Society. Dr. Breipohl received his preliminary education at Kansas State University and his medical degree at the University of Kansas in 1983. He completed his residency training at the University of Kansas. He specializes in anesthesiology.

■ **Thomas B. Briggs, M.D.,** 1965 S. Freemont, Suite 2500, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Briggs received his preliminary education at Louisiana Tech University and his medical degree at the University of Arkansas in 1980. He completed his residency training at the University of Mississippi Medical Center. He specializes in neurosurgery.

■ **Larry K. Clark, M.D.,** 3101 McClelland Blvd., Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Clark received his preliminary education at Northeastern Oklahoma State University and his medical degree at the University of Oklahoma in 1982. He completed his residency training at Wesley Medical Center, Wichita. He specializes in obstetrics and gynecology.

■ **William H. Crosby, M.D.,** 3302 McIntosh Circle, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Crosby received his preliminary education at the University of Pennsylvania and his medical degree at the University of Pennsylvania in 1940. He completed his residency training at Brooke General Hospital, Fort Sam Houston, TX. He specializes in oncology and hematology.

■ **Joel M. Dean, D.O.,** 2700 McClelland Blvd., Bldg. B, Suite 203, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Dean received his preliminary education at Michigan State University and his osteopathic degree at Michigan State College of Osteopathic Medicine in 1982. He completed his residency training at the University of New Mexico Hospitals, Albuquerque, NM. He specializes in neurology.

■ **David R. Gayle, D.O.,** 415 S. Main, Piedmont 63957, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Gayle received his preliminary education at the University of Missouri-Columbia and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1969. He completed his internship at Fort Worth Osteopathic Hospital. He specializes in general practice.

■ **Richard E. Gayle, D.O.,** 415 S. Main, Piedmont 63957, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Gayle received his preliminary education at Central Methodist College and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1967. He completed his residency training at Fort Worth Osteopathic Hospital. He specializes in general practice.

■ **Charlene C. Gottlieb, M.D.,** 114 N. Taylor, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Gottlieb received her preliminary education at Radcliffe College and her medical degree at Washington University in 1972. She completed her residency training at Jewish Hospital. She specializes in internal medicine.

■ **Larry I. Galblum, M.D.,** 6550 B-C Troost Ave., Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Galblum received his preliminary education at George Washington University and his medical degree at the University of Maryland in 1979. He completed his residency training at George Washington University. He specializes in pathology.

■ **Robert G. Harmon, M.D.,** P.O. Box 570, 1738 E. Elm, Jefferson City 65101, has become a member of the Cole County Medical Society. Dr. Harmon received his preliminary education at Washington University and his medical degree at Washington University in 1970. He completed his residency training at the University of Colorado Medical Center, Denver, CO. He specializes in internal medicine and preventive medicine.

■ **Robert D. Hestorff, M.D.,** Kneibert Clinic, 686 Lester, Poplar Bluff 63901, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Hestorff received his preliminary education at Standford University and his medical degree at Standford University in 1959. He completed his residency training in internal medicine in Cincinnati, Ohio. He specializes in oncology and hematology.

■ **Laird E. Jones, M.D.,** 1639 S. Catalina, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Jones received his preliminary education at Drury College and his medical degree at University Auto de Cd. Juarez in 1981. He completed his residency training at the Western Missouri Mental Health Center, Kansas City. He specializes in psychiatry.

■ **Stanley G. Jones, Jr., M.D.,** 1012 N. Main, Sikeston 63801, has become a member of the SEMO County Medical Society. Dr. Jones received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1981. He completed his residency training at the USAF Hospital Scott, Scott AFB, IL. He specializes in family practice.

■ **Robert A. Karp, M.D.,** Medical Director, Mark Twain Mental Health Center, 109 Virginia, Hannibal 63401, has become a member of the Northeast Medical Society. Dr. Karp received his preliminary education at the University of California-Santa Cruz and his medical degree at Chicago Medical School in 1982. He completed his residency training at Northwestern Memorial Hospital, IL. He specializes in psychiatry.

■ **Mark J. Maslan, M.D.,** 6724 Troost, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Maslan received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1980. He completed his residency training at the University of Michigan, Ann Arbor, Mich. He specializes in otolaryngology, head and neck surgery.

■ **Kelly R. Moore, M.D.,** 3107 McClelland, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Moore received her preliminary education at the University of Oklahoma and her medical degree at the University of Oklahoma in 1983. She completed her residency training at the University of Oklahoma, Tulsa. She specializes in pediatrics.

■ **Peter J. Muelleman, M.D.,** 17421 Medical Center Parkway, Independence 64057, has become a member of the Jackson County Medical Society. Dr. Muelleman received his preliminary education at the University of Nebraska and his medical degree at the University of Nebraska in 1982. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in dermatology.

■ **J.Gustavo Nix, M.D.,** 1100 S. Springfield, Bolivar 65613, has become a member of the Dallas-Hickory-Polk-Dade Counties Medical Society. Dr. Nix received his preliminary education at Southwest Baptist University and his medical degree at St. Lucia Health Sciences University, Castries, St. Lucia in 1983. He completed his residency training at the Oakwood Hospital, Dearborn, Mich. He specializes in internal medicine.

■ **Indu B. Patel, M.D.,** 1683 Marriott Lane, P.O. Box 308, Barnhart 63012, has become a member of the Jefferson County Medical Society. Dr. Patel received his preliminary education at Gujarat College and his medical degree at B. J. Medical College in 1970. He completed his residency training at the Good Samaritan Hospital, Maryland. He specializes in internal medicine.

■ **Carl F. Patty, M.D.,** 1901 Sunset, Poplar Bluff 63901, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Patty received his preliminary education at Southeast Missouri State University and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at St. Mary's Medical Center, Evansville, IN. He specializes in obstetrics and gynecology.

■ **Charles S. Pewitt, D.O.,** 545 Broadridge Rd., Jackson 63755, has become a member of the Cape Girardeau County Area Medical Society. Dr. Pewitt received his preliminary education at the University of Missouri-Columbia and his osteopathic degree at the University of Health Sciences, Kansas City in 1985. He completed his internship at Mineral Area Osteopathic Hospital, Farmington. He specializes in general practice.

■ **Jimmy C. Presley, M.D.,** 1301 S. Glenstone, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Presley received his preliminary education at the Bethany Nazarene College and his medical degree at the University of Arkansas in 1971. He completed his residency training at the Tulsa Medical Education Foundation and University of Oklahoma, Tulsa. He specializes in family practice.

■ **Claudia K. Preuschoff, M.D.,** 1901 Sunset Drive, Poplar Bluff 63901, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Preuschoff received her preliminary education at Duke University and her medical degree at Bowman Gray in 1983. She completed her residency training at Vanderbilt University. She specializes in pediatrics.

■ **Frank B. Purvis, M.D.,** 204 Summit, Doniphan 63935, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Purvis received his preliminary education at Central Methodist College and his medical degree at the University of Missouri-Columbia in 1977. He completed his residency training at USC. He specializes in general practice.

■ **Jane D. Reardon, M.D.,** 3006 Buchanan, North Kansas City 64116, has become a member of the Jackson County Medical Society. Dr. Reardon received her baccalaureate and medical degree at the University of Missouri-Kansas City in 1985. She is completing her residency training at the Childrens Mercy Hospital, Kansas City. She specializes in pediatrics.

■ **Marilyn R. Richardson, M.D.,** Suite 650B, 3101 Broadway, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Richardson received her preliminary education at the University of Michigan and her medical degree at the University of Kansas in 1979. She completed her residency training at the Truman Medical Center. She specializes in gynecology and reproductive endocrinology.

■ **Justin A. Robinson, M.D.,** 3401 Berrywood, Suite 104, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Robinson received his preliminary education at the University of Washington and his medical degree at the University of Washington-Seattle in 1980. He completed his residency training at Saginaw Cooperative Hospital, Mich. He specializes in general and vascular surgery.

■ **George P. Samuel, M.D.,** 1 Hospital Dr., Doniphan 63935, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Samuel received his preliminary education at Aligarh University and his medical degree at the Benares Hindu University in 1976. He completed his residency training at the United Hospital Medical Centre, Newark, N.J. He specializes in internal medicine.

■ **John J. Saxer, III, M.D.,** 6601 Rockhill Rd., Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Saxer received his preliminary education at the University of Notre Dame and his medical degree at Loyola Stritch School of Medicine in 1985. He is completing his residency training at the Baptist Medical Center, Kansas City. He specializes in family practice.

■ **Daniel D. Schaper, M.D.,** 2700 McClelland Blvd., Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Schaper received his preliminary education at the Pittsburg State University and his medical degree at the University of Kansas in 1981. He completed his residency training at Southern Illinois University, Springfield, Ill. He specializes in orthopedic surgery.

- **John Michael Schneider, M.D.**, 1900 S. National, Suite 1800, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Schneider received his preliminary education at the University of Denver and his medical degree at St. Louis University in 1983. He completed his residency training at Barnes Hospital, St. Louis. He specializes in anesthesiology.

- **Thomas C. Schnurr, M.D.**, 113 W. Hickory, Neosho 64850, has become a member of the Ozark Medical Society. Dr. Schnurr received his preliminary education at Benedictine College and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the University of Missouri Hospitals and Clinics, Columbia. He specializes in family practice.

- **Richard D. Schooler, D.O.**, 702 E. 34th St., Suite 100, Oak Hill Medical Plaza, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Schooler received his preliminary education at Pittsburg State University and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1980. He completed his residency training at Sandusky Memorial Hospital, Sandusky, Ohio. He specializes in obstetrics and gynecology.

- **William J. Schulte, M.D.**, 60 Doctors Park, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Schulte received his preliminary education at the University of Kentucky and his medical degree at the University of Kentucky in 1981. He completed his residency at the University of Tennessee, Memphis. He specializes in internal medicine.

- **Patrick A. Smith, M.D.**, 3205 Lansing Ave., Columbia 65205, has become a member of the Boone County Medical Society. Dr. Smith received his preliminary education at the University of Michigan and his medical degree at the University of Michigan in 1980. He completed his residency training at the University of Michigan Hospitals. He specializes in orthopedic surgery.

- **Charles M. Swaney, M.D.**, 1502 E. Broadway, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Swaney received his preliminary education at the University of Oklahoma and his medical degree at the University of Oklahoma in 1980. He completed his residency training at the University of Oklahoma Health Sciences Center. He specializes in diagnostic radiology.

- **Clell V. Todd, M.D.**, 3107 McClelland, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Todd received his preliminary education at Oklahoma State University and his medical degree at the University of Oklahoma in 1980. He completed his residency training at the University of Oklahoma. He specializes in pediatrics.

- **Michael P. Toney, M.D.**, 124 S. Main, Piedmont 63957, has become a member of the Butler-Wayne-Ripley-Carter County Medical Society. Dr. Toney received his preliminary education at Southeast Missouri State University and his osteopathic degree at Kansas City College of Osteopathic Medicine in 1979. He completed his internship at Normandy Osteopathic Hospital, St. Louis. He specializes in general practice.

- **Gregory L. Unruh, D.O.**, 2423½ Fairlawn, Carthage 64836, has become a member of the Jasper County Medical Society. Dr. Unruh received his preliminary education at Bethel College and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1977. He completed his internship at the Osteopathic Hospital at Wichita, Kan. He specializes in general practice.

- **Craig W. Williams, M.D.**, P.O. Box 1330, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medical Society. Dr. Williams received his preliminary education at the University of Tennessee and his medical degree at the University of Tennessee in 1981. He completed his residency training at the University of Tennessee, Memphis. He specializes in radiology.

■ Editor's Desk

Continued from page 783

bodies should be involved in efforts to provide practitioners with the means and incentives to maintain knowledge, judgment, and skills."

The work group maintains that professional competence starts with good preparation in school for lifelong learning. Yet professionals should engage in continuing education programs to assure continued competence. The individual practitioner should be responsible for paying the cost of continuing education when other sources of funding are absent.

The final agenda should be released before January 1987.

The American people constitute an important audience, as do the policy makers and participating organizations who defined these critical issues and seek far-sighted solutions. Their intent is to provide enduring guidance on these issues, guidance so compelling that it will have a major impact on health care decisions and the way they are made.

All Missouri physicians should be knowledgeable of this epic work in American medicine. ■

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The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine.* Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

A WORD TO THE WHYS

WHY AMA? AMA-sponsored Group Disability insurance is designed to replace a substantial portion of your income should you be unable to practice due to sickness or accident. Unlike many policies, AMA-sponsored Disability Insurance provides benefits if you are unable to perform *your* occupation in *your* medical specialty. Providing you with benefits you can't afford to be without: it's one more good reason why you should be a part of the AMA.

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WHY AMA? Commitment to maintaining high quality at all levels of medical education is one of the AMA's proudest traditions. The AMA creates policy for medical education, participates in accreditation activities, and supplies the public with information on medical education issues. Proven dedication to high standards in medical education: it's one more good reason why you should be a part of the AMA.

To Join, Contact your county or state medical society or write: Division of Membership, AMA, 535 North Dearborn Street, Chicago, Illinois 60610 or call collect, (312) 751-6196.

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Heals active duodenal ulcers after 4 weeks in most patients*[1]

ZANTAC 300 mg h.s.	270/320	84%
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Relieves pain and other symptoms as effectively as ZANTAC 150 mg b.i.d.[1]

Zantac® 300

ranitidine HCl/Glaxo 300 mg tablets

Once-daily dosing may enhance compliance in patients for whom dosing convenience is important

Side-effects profile comparable to ZANTAC 150 mg b.i.d.[1-3]

Headache—sometimes severe—has been reported. Rare effects on the CNS, cardiovascular, GI, hepatic, and integumental systems have been observed, as well as rare cases of hypersensitivity reactions. See ADVERSE REACTIONS section of Brief Summary of Product Information before prescribing.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 300 mg h.s. had no significant drug interactions with theophylline or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications which decrease gastric acidity are administered.

Glaxo/ROCHE

See next page for references and Brief Summary of Product Information.

*It is not known exactly how much acid inhibition is needed to heal ulcers.

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Once-a-night h.s. therapy controls acid rain

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ranitidine HCl/Glaxo 300 mg tablets

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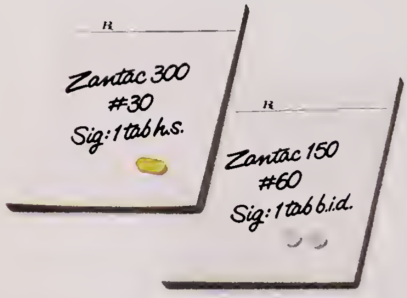

References: 1. Data available on request, Glaxo Inc. **2.** Ireland A, Colin-Jones DG, Gear P, et al: Ranitidine 150 mg twice daily vs 300 mg nightly in treatment of duodenal ulcers. *Lancet* 1984;2:274-275. **3.** Colin-Jones DG, Ireland A, Gear P, et al. Reducing overnight secretion of acid to heal duodenal ulcers. *Am J Med* 1984; 77 (suppl 5B):116-122.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

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PRODUCT INFORMATION

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1. Short-term treatment of **active duodenal ulcer** Most patients heal within four weeks.
2 **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD)**. Symptomatic relief commonly occurs within one or two weeks after starting therapy. Therapy for longer than six weeks has not been studied.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: General: 1. Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy. 2. Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function. Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

Laboratory Tests: False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended

Drug Interactions: Although ZANTAC has been reported to bind weakly to cytochrome P-450 in vitro, recommended doses of the drug do not inhibit the action of the cytochrome P-450-linked oxygenase enzymes in the liver. However, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no indication of tumorigenic or carcinogenic effects in lifespan studies in mice and rats at doses up to 2,000 mg/kg/day

Ranitidine was not mutagenic in standard bacterial tests (*Salmonella, E coli*) for mutagenicity at concentrations up to the maximum recommended for these assays.

In a dominant lethal assay, a single oral dose of 1,000 mg/kg to male rats was without effect on the outcome of two matings per week for the next nine weeks.

Pregnancy: ***Teratogenic Effects: Pregnancy Category B:*** Reproduction studies have been performed in rats and rabbits at doses up to 160 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ZANTAC. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: ZANTAC is secreted in human milk. Caution should be exercised when ZANTAC is administered to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Use in Elderly Patients: Ulcer healing rates in elderly patients (65 to 82 years of age) were no different from those in younger age groups. The incidence rates for adverse events and laboratory abnormalities were also not different from those seen in other age groups.

ADVERSE REACTIONS: The following have been reported as events in clinical trials or in the routine management of patients treated with oral ZANTAC®. The relationship to ZANTAC therapy has been unclear in many cases. Headache, sometimes severe, seems to be related to ZANTAC administration.

Central Nervous System: Rarely, malaise, dizziness, somnolence, insomnia, and vertigo. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

Cardiovascular: Rare reports of tachycardia, bradycardia, and premature ventricular beats.

Gastrointestinal: Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain.

Hepatic: In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid IV for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

Musculoskeletal: Rare reports of arthralgias.

Hematologic: Rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia

Endocrine: Controlled studies in animals and man have shown no stimulation of any pituitary hormone by ZANTAC and no antiandrogenic activity, and cimetidine-induced gynecomastia and impotence in hypersecretory patients have resolved when ZANTAC has been substituted. However, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Integumental: Rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia.

Other: Rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC® 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day

GERD: The current recommended adult oral dosage is 150 mg twice a day.

See full prescribing information for dosage adjustment for patients with impaired renal function.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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Physician's Recognition Awards

Forty-eight MSMA members qualified for the MSMA-AMA Physician's Recognition Award during September 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Butler-Wayne-Ripley-Carter

Richard A. Fraser, *Poplar Bluff*

Clay-Platte

Richard P. Bowles, *Liberty*
Michael E. Shinn, *Kansas City*

Franklin-Gasconade-Warren

George M. Workman, *Hermann*

Grand River

Minerva C. Rivera, *Brookfield*
Pepito C. Rivera, *Brookfield*

Greene

Floyd R. Barnhill, *Springfield*
Myron D. Brockman, *Springfield*
Harry L. Ellis, *Springfield*
John H. Ippensen, *Springfield*
Norman P. Knowlton, *Springfield*
Ernest Lorenc, *Springfield*
Elbert R. Olson, *Springfield*

Jackson

Menzie H. Brown, *Kansas City*
John G. Campbell, *Kansas City*
John H. Cowan, *Kansas City*
David L. Ellis, *Kansas City*
James G. Fitzsimmons, *Kansas City*
Frederick W. Hahn, *Kansas City*
John C. Hall, *Kansas City*
Steven T. Joyce, *Kansas City*
Hal E. Marshall, *Kansas City*
Alan J. McLeod, *Kansas City*
Michael W. Raybould, *Kansas City*
Arthur W. Robinson, *Kansas City*
Elson F. Seitz, *Kansas City*
David M. Steinhaus, *Kansas City*

Jasper

Francis H. Corcoran, *Joplin*

Jefferson

Benjamin I. Albano, *Crystal City*

Lake of the Ozarks

Robert R. Lyle, *Versailles*

Pettis

Marek Lepkowski, *Sedalia*

St. Charles-Lincoln

John H. Uhlemann, *St. Charles*

St. Louis

Daniel A. Abodeely, *Chesterfield*
Charles R. Blackwell, *St. Louis*
Gus J. Furla, *St. Louis*
Guillermo Geisse, *St. Louis*
Albert E. Hesker, *Chesterfield*
William F. Hoffman, *St. Louis*
Richard P. Jotte, *St. Ann*
Dominador O. Madrid, *St. Louis*
Elsie E. F. Meyers, *Clayton*
James S. Nelson, *St. Louis*
Edward S. Nemec, *St. Louis*
Edward J. Shaw, *St. Louis*
Thomas J. Weiler, *St. Louis*

Saline

Richard C. Raynor, *Marshall*

West Central

Bin Mou, *Nevada*
William A. Turner, *Nevada*

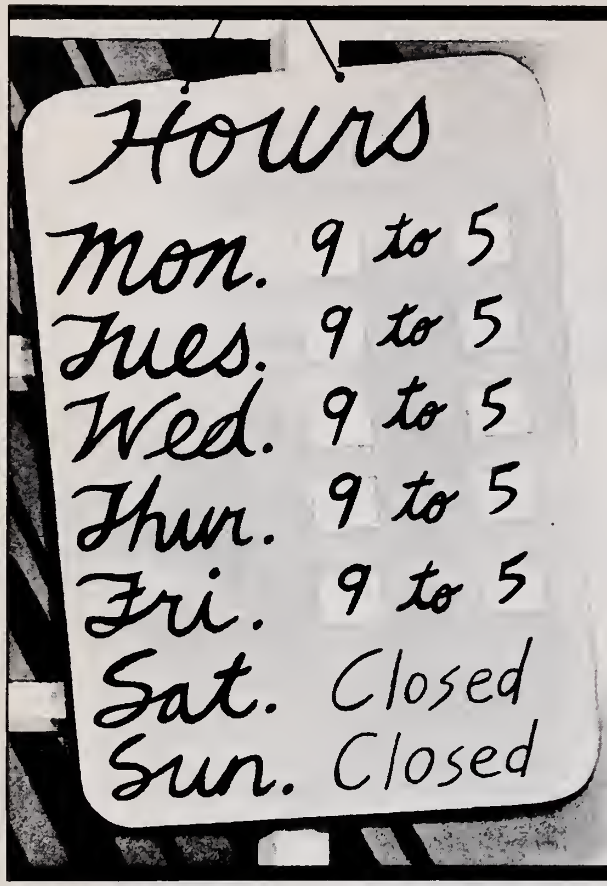
In Memoriam

- **Joseph J. Cochrane, M.D.,** 1017 S. 17th St., Blue Springs 64015; graduate of Tulane University, 1942; member of the Jackson County Medical Society; age 70; died Oct. 2, 1986.

- **Wilbur Davis, M.D.,** 807 E. Commercial St., Charleston 63834; graduate of the University of Tennessee, 1937; member of the SEMO Medical Society; age 71; died Sept. 14, 1986.

- **William H. Hickerson, M.D.,** 4207 S. Crysler, Independence 64050; graduate of the Rush Medical School of the University of Chicago, 1942; member of the Jackson County Medical Society; age 70; died Oct. 12, 1986.

- **Lois C. Wyatt, M.D.,** 402 Fairwood Lane, St. Louis 63122; graduate of the University of Chicago, 1931; member of the St. Louis Metropolitan Medical Society; age 81; died Oct. 18, 1986.



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Medical School News

The University of Missouri-Columbia

- **Jay Dix, M.D.,** associate professor of pathology, recently spoke to the State Highway Patrol on scene investigation and forensic pathology.
- **Scott Estrem, M.D.,** assistant professor of surgery, has entered a contract with the 3M company of Minneapolis to develop an electrophysiologic stimulus to rehabilitate patients' facial nerve paralysis. This study is a result of on-going research in otolaryngology.
- **Robert Gaines, M.D.,** assistant professor of surgery, and **Gordon Groh, M.D.,** first-year orthopedic surgery resident, received a grant of $13,374 from the Orthopedic Research and Education Foundation for Study of Experimental Evaluation of Spinal Fracture Stabilization Systems.
- **Adriana Gini, M.D.,** clinical research fellow in nuclear medicine, and **Lynn M. Stringham,** (BS), nuclear medicine research technologist won research awards at September's meeting of the Missouri Valley Chapter of the Society of Nuclear Medicine in Kansas City. Dr. Gini won the Young Investigator Peterson Award for her research on "Sm 153-EDTMP, A Proposed Approach to the Amelioration of Bone Pain due to Cancer." Stringham received the Outstanding Technologist Award for her paper on "Sm 153-EDTMP: A Promising Radiopharmaceutical for the Treatment of Metastatic Bone Disease." Both Stringham and Dr. Gini work under the direction of **Richard Holmes, M.D.,** professor and chief of nuclear medicine.
- **David Klachko, M.D.,** associate professor of medicine, is the elected president of the Boone County Medical Society for the 1986-87 year.
- **Gaston Lamont, M.D.,** professor of pathology, was reappointed to the Editorial Board of the American Journal of Clinical Pathology.
- **Alan Luger, M.D.,** associate professor of pathology, has been granted a semester's leave from the faculty to conduct research at the Imperial Cancer Research Fund in London, England. At the Fund, Dr. Luger plans to study human organ transplant immunology and genetics for six months beginning January, 1987. Dr. Luger is also director of the Transplantation Immunology Laboratory at University Hospital.
- **Richard Oliver, Ph.D.,** director and assistant professor of health related professions, had his article "Legal Liability of Students and Residents in the Health Care Setting" published in July 1986 issue of the Journal of Medical Education.
- **Jerry Parker, Ph.D.,** clinical associate professor of medicine and psychiatry and chief of psychology service at Harry S Truman Memorial Veteran's Hospital, received the Outstanding Veteran's Administration VA Research Award."
- **Michael Prewitt, Ph.D.,** assistant professor of respiratory therapy, has been named Associate Director for Student Affairs of the School of Health Related Professions. He also recently presented a paper for an invitational national conference sponsored by the Health Resources and Services Administration. Dr. Prewitt is chairman of the Education Committee of the American Association for Respiratory Care.
- **Javendra Shah, M.D.,** associate professor of medicine, presented papers at meetings of the American Diabetes Association and the Endocrine Society earlier this year. One research paper entitled "The perception of sweet taste is impaired in Type II but not Type I patients" resulted in interviews and articles by the Los Angeles Times and Anaheim Bulletin.
- **Gordon C. Sharp, M.D.,** professor of medicine, presented several research papers on Mixed Connective Tissue Disease at this year's International Symposium on Mixed Connective Tissue Disease and Antinuclear Antibodies in Tokyo, Japan.
- **Sara Walker, M.D.,** professor of medicine and **Lydia Keisler,** research associate, recently presented a paper in Toronto, Canada at the First International Conference on Hormones and Immunity. Dr. Walker along with several other faculty members presented papers at the annual national meeting of the American Rheumatism Association. Included among the researchers are **David Hyslop, M.D.,** assistant professor of medicine; **William Williams, M.D.,** post-doctoral fellow; and **Robert Frank, Ph.D.,** assistant professor of physical medicine and rehabilitation. Their findings will also be published in *Arthritis and Rheumatism.*
- The Department of Psychiatry recently presented its faculty awards. Winners include: **Lori DeRosear, D.O.,** assistant professor, Guhleman Award for Clinical Excellence; **Joseph Lamberti, M.D.,** associate professor, the residents' award for teaching excellence, for the third year; **Gary Blount, M.D.,** outstanding senior resident award; and **Judith Fisher, M.D.,** and **Lynette Schmid, M.D.,** co-winners of the outstanding junior resident award.
- The Department of Child Health cosponsored a Pediatric Conference this summer in conjunction with the annual meeting of the Missouri chapter of the American Academy of Pediatrics and co-sponsored a conference on Sudden Infant Death Foundation.
- **J. Otto Lottes, M.D.,** a retired orthopedic surgeon known as a pioneer in his field received the 1986 Distinguished Service Award from the UMC Alumni Association. In 1946, he invented the triflange tibial nail, designed to correct fractured tibias. This device is still in use today.

Dr. Lottes earned an A.B. in 1934 and a B.S. Med in 1935 before earning his M.D. from the University of Louisville in 1937. He returned to Mizzou and in 1979 donated 3,200 acres of land in southeast Missouri valued at $1 million.

This donation was a catalyst for an ambitious private fund drive that culminated in a new $5 million library. The new facility, dubbed the J. Otto Lottes Health Sciences Library, was dedicated in September 1985.

Dr. Lottes actively participated in University and medical school boards, serving on the Medical Alumni Board of Governors and the School of Medicine Foundation Board. Among a long list of awards, Dr. Lottes has earned the 1979 Citation of Merit from the School of Medicine Alumni Organization and a 1984 Faculty-Alumni Award.

- **Thomas W. Burns, M.D.,** professor of medicine, is responsible for much of the success of the University's Cosmopolitan International Diabetes Center. He received the 1986 Faculty Award from the UMC Alumni Association. He was instrumental in the center's establishment 10 years ago and is the center's first and only director.

Dr. Burn's career at the University spans 30 years. He's been director of the division of endocrinology since 1969, has published more than 150 articles and six books, and has attracted $950,000 in research grants.

Dr. Burns earned an AA degree from UCLA in 1943 and three degrees from the University of Utah, including an M.D. in 1947. He received the University of Missouri Cosmopolitan Award and the Cosmopolitan International President's Award in 1982 for his work at the Diabetes Center.

- **J. Will Fleming, Jr., M.D.,** of Moberly has been treating infection, pneumonia, heart conditions and colds all his life. He received the Alumni Award from the UMC Alumni Association.

Two years after earning his M.D. from the University of Chicago, Dr. Fleming began practicing internal medicine in his Moberly hometown. Despite his official retirement last June, Dr. Fleming continues as one of seven members of the Woodlands Internist Group in Moberly.

A life member of the Mizzou Alumni Association, Dr. Fleming also is a charter member of the Jefferson Club. He continues to be active in community affairs as well.

St. Louis University

- Two professors from St. Louis University School of Medicine have been awarded 1986-87 Wellcome Visiting Professorships by The Burroughs Wellcome Fund.

Thomas C. Westfall, Ph.D., professor and chairman of pharmacology, will visit the University of Illinois at Peoria as Wellcome Visiting Professor in the Basic Medical Sciences. His award is one of 21 co-sponsored by the Federation of American Societies for Experimental Biology.

Maurice Green, Ph.D., professor and chairman of the Institute of Molecular Virology, will visit Illinois State University in Bloomington as Wellcome Visiting Professor in Microbiology. His award is one of three co-sponsored by the American Society for Microbiology.

The Burroughs Wellcome Fund is a private foundation that supports medical research and education. It is associated with the Burroughs Wellcome Co., a pharmaceutical manufacturer.

- St. Louis University Medical Center has received $1.1 million from the National Institutes of Health to conduct a study to investigate whether drug treatment can prolong the lives of patients who have survived a heart attack. The principal investigator of the project is **Jerome D. Cohen, M.D.,** professor of medicine at the school of medicine and director of preventive cardiology for the medical center.

St. Louis University is one of 23 medical centers in the United States, along with three in Canada and one in Sweden, selected to participate in the Cardiac Arrhythmia Treatment Trial (CATT).

Satellite centers participating in the study along with St. Louis University are the John Cochran Veterans Administration Medical Center, St. John's Mercy Medical Center, Deaconess Hospital, and St. Mary's Health Center.

- **Thomas C. Westfall, Ph.D.,** professor and chairman of pharmacology at St. Louis University School of Medicine, has been awarded a three-year, $266,967 grant from the National Institute on Drug Abuse. Dr. Westfall will study the effects of nicotine on the central nervous system.

Nicotine stimulates the release of the neurotransmitter dopamine, the same chemical affected by cocaine, alcohol and other drugs of abuse. Dr. Westfall says a better understanding of how these substances act in the brain could eventually help scientists discover ways to combat addiction.

- **Nicola Partridge, Ph.D.,** assistant research professor of pediatrics and orthopedic surgery at St. Louis University School of Medicine, has received two grants totaling $302,367 to study bone formation and breakdown, also known as bone remodeling.

St. Louis Shriners Hospital for Crippled Children is providing $232,367 over a three-year period for Dr. Partridge's study of the role that the osteoblast plays in the continual process of bone turnover. In addition, the Orthopaedic Research and Education Foundation has provided $70,000 in funding for a related study. This grant is being used to study bone remodeling to determine more precisely the process involved in healing fractured bones.

- **Irene Schulze, Ph.D.,** professor of microbiology at St. Louis University School of Medicine, has been awarded a three-year, $215,563 grant from the National Institute of Allergy and Infectious Diseases. She will continue her studies of the virus that causes influenza.

Dr. Schulze has been studying influenza viruses since she joined the medical school faculty in 1970. In her current research project, she will investigate how the virus is selected and modified by the cells that it infects.

- A two-year, $50,000 grant has been awarded to **Alvin H. Gold, Ph.D.,** professor of pharmacology at St. Louis University School of Medicine. The funding, from the national office of the American Diabetes Association, will be used to study the mechanisms in the liver involved in the regulation of blood glucose levels.

- **Rodney M. Coe, Ph.D.,** has been awarded a $236,363 three-year Geriatric Leadership Academic Award from the National Institute on Aging (NIA). Dr. Coe is professor in the department of community medicine at St. Louis University School of Medicine and education coordinator for the Geriatric Research, Education and Clinical Center (GRECC) located at St. Louis Veteran's Administration Medical Center, Jefferson Barracks.

The award will promote further development of a coordinated, multidisciplinary program of research training and education in gerontology and geriatrics at St. Louis University. The specific objectives include increasing opportunities for faculty and students for preceptorial experiences in research training; expanding clinical training in geriatrics; and developing new sites to establish an integrated, comprehensive long-term care system for research and training.

- The Cardiovascular Risk Reduction Center at St. Louis University Medical Center has received a grant from Smith Kline & French Laboratories to study the effectiveness of fenoldopam mesylate, a new drug to control severe high blood pressure. The principal investigator of the project is **George Sopko, M.D.,** director of the Cardiovascular Risk Reduction Center.

Patients will be selected for the study based on the severity of their hypertension and their clinical status. Fenoldopam mesylate will be administered intravenously to patients during a maximum three-day hospitalization, which is required. Upon discharge, the patients will be placed on oral medication and referred back to their primary physician for continued hypertension control. Funds provided by the grant will cover those charges pertaining to the study which are incurred during hospitalization.

- **Terry Moore, M.D.,** professor of medicine and director of the division of rheumatology at St. Louis University School of Medicine, has received two grants totaling $33,134 to continue research and care of patients with systemic lupus erythematosus (SLE) and juvenile rheumatoid arthritis (JRA).

The Easter Seal Research Foundation awarded $23,134 to Dr. Moore for continued research on JRA. The research concentrates on the make-up of protein abnormalities in the blood of people with JRA.

The second grant, from the Missouri Chapter of the Lupus Foundation of America, will help fund a clinical fellowship for continued treatment of SLE and other connective tissue disease patients. This disease causes inflammation of skin, joints and other systems.

■ **Vincent A. Chiappinelli, Ph.D.**, has been awarded a $21,678 National Science Foundation grant for a collaborative research project with a scientist in the People's Republic of China. Dr. Chiappinelli, associate professor of pharmacology at St. Louis University School of Medicine, and Chen Shi-Qui of Jinan University in China will study and compare toxins of snakes in Southeast Asia and China.

Dr. Chiappinelli has been working with snake toxins since 1981. His previous research led to his discovery of kappa-bungarotoxin, a chemical in the venom of the banded krait, a snake that lives in Southeast Asia.

Through the U.S.-China cooperative research project, Dr. Chiappinelli hopes to determine if different evolutionary paths have caused important differences between the toxins of the snakes in Asia and China.

Washington University

■ Washington University School of Medicine has been awarded an eight-year grant totaling $2,586,761 to proceed with the Diabetes Control and Complications Trial. Washington University is one of 27 leading diabetes research centers in North America participating in the study, funded by the National Institutes of Health.

"We hope that we can reproduce and extend our early success as we progress from 278 to 1400 patients study-wide," says **Julio V. Santiago, M.D.**, professor of pediatrics and principal investigator for the study at Washington University. "If we can prevent the early complications of diabetes with highly intensive forms of treatment, we can proceed to offer this type of treatment to more people.

■ **Samuel E. Logan, M.D., Ph.D.**, assistant professor of plastic and reconstructive surgery at Washington University School of Medicine in St. Louis, has received a grant from The Whitaker Foundation to support his research on wrist function.

The three-year grant totals $150,000, and will allow Logan to continue investigating the complex anatomy of the wrist. Logan's research is a collaboration among a number of investigators in the Division of Plastic Surgery and **Michael Vannier, M.D.**, associate professor of radiology in the Mallinckrodt Institute of Radiology, a sponsoring institution of the Washington University Medical Center.

Logan, who earned a doctorate in engineering in 1972 from the California Institute of Technology in Pasadena, is assistant professor of mechanical engineering at Washington University School of Engineering and Applied Science. He is also on staff at Barnes Hospital, a sponsoring institution of the Washington University Medical Center.

Logan received his medical degree from the University of California-Los Angeles in 1976, where he also completed a residency in surgery. He joined Washington University's faculty in 1984 after serving a residency in plastic and reconstructive surgery at the University of California-San Francisco.

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■ **Donald G. Sessions, M.D.**, has been named president of the Washington University Medical Center Alumni Association.

Sessions, an expert on the surgical treatment of head and neck cancers, is professor of otolaryngology at Washington University School of Medicine in St. Louis. He is also director of resident training for the otolaryngology department.

Sessions graduated from the School of Medicine in 1962. After completing an internship and residency in surgery at Vanderbilt Hospital in Nashville, Tenn., he returned to Washington University for a residency in otolaryngology. Following military service at the U.S. Air Force Hospital in Anchorage, Alaska, he was named assistant professor of otolaryngology at Washington University in 1970.

Sessions is on staff at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Medical Center. He is a member of a number of professional organizations, including fellowship in the American College of Surgeons, the American Academy of Otolaryngology-Head and Neck Surgery, the American Academy of Facial Plastic and Reconstructive Surgery, and the American Society for Head and Neck Surgery. He has published numerous journal articles in his field and is the author of a textbook, *Atlas of Laryngeal Surgery*. Sessions has a special interest in well-being and the doctor-patient relationship and is currently doing research in this area.

■ Medical students from throughout the Midwest gathered in St. Louis Oct. 10-12, when Washington University School of Medicine hosted the 1986 Region VIII fall conference of the American Medical Students Association (AMSA).

AMSA is the largest independent medical student organization in the United States. It is run by medical students, and focuses on the needs of both students and society by stressing social commitment, community involvement, and the improvement of medical education.

■ **Patti M. Nemeth, Ph.D.**, associate research professor of neurology and of anatomy and neurobiology at Washington University School of Medicine in St. Louis, has been awarded over $526,000 in two grants from the National Institutes of Health.

The first award is from the National Institute of Neurology and Communicative Disorders and Stroke and will fund a project on the biochemistry and physiology of single motor units.

The second award is from the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases for a study of neural influences on biochemistry of single muscle fibers.

Nemeth came to Washington University in 1980 as a research associate in the Department of Pharmacology. She became an assistant professor of neurology and of anatomy and neurobiology, and was named associate professor this year.

Before joining Washington University, she served as a research assistant professor of biology as well as the Alexander von Humboldt Postdoctoral Fellow in Biology at the University of Konstanz in West Germany. She also completed postdoctoral research in the Department of Anatomy and Embryology at the University College London School of Medicine in England.

■ The Department of Biological Chemistry at Washington University School of Medicine has received a $140,000 gift from the Whitaker Charitable Foundation. The gift is part of The Alliance for Washington University fund-raising campaign.

The gift will be used to purchase a peptide synthesizer in the department's protein sequencing facility.

■ Noted immunologist **William E. Paul, M.D.**, delivered the 14th annual Carl V. Moore Memorial Lecture Oct. 31 at Washington University School of Medicine.

Paul is chief of the Laboratory of Immunology at the National Institute of Allergy and Infectious Diseases at the National Institutes of Health in Bethesda, Md. His lecture was titled, "Living with Lymphocytes: The Regulation of B Lymphocyte Growth."

The Moore Lecture is sponsored each year by the Department of Medicine at Washington University in honor of the late Carl V. Moore, M.D. Moore was Busch Professor and head of the Department of Medicine, first vice chancellor for medical affairs at the School of Medicine, and president of the Washington University Medical Center. He died in 1972.

■ Two Washington University ophthalmologists have been elected to membership in The Retina Society, a national honorary organization for retina specialists.

Dean B. Burgess, M.D., and **Richard F. Escoffery, M.D.**, both assistant professors of clinical ophthalmology, were chosen this year for their medical and surgical experience, literary contributions and retinal experience. The society was founded in 1968 to encourage the exchange of information about diseases of the retina, the sensory membrane that lines the inner eye.

Both ophthalmologists are in private practice with Retina Consultants, Ltd., in St. Louis. Burgess is on staff at Barnes Hospital and Escoffery is on staff at Barnes and Children's hospitals, sponsoring institutions of the Washington University Medical Center.

University of Missouri-Kansas City

■ **Edward J. Twin, M.D.**, former executive director of Kansas City General Hospital and Truman Medical Center died Sept. 29. Dr. Twin made substantial contributions in these roles, as well as professor of medicine and docent at the University of Missouri-Kansas City School of Medicine.

After many years of successful private practice, he devoted his professional life to Hospital Hill. Dr. Twin "was the only man with the personal task of going physically into Old General Hospital, changing its character, rebuilding its system, doing the surgery, the incisions, . . . the whole organ transplants necessary in causing that old place with the social habits of another era to be reborn as Truman Medical Center," said provost emeritus **E. Grey Dimond, M.D.**

As docent and professor, he was "the Pied Piper with his students," said **Dean Harry S. Jonas, M.D.** "The history of this educational experiment will forever carry the message that one of the key ingredients in our success was due to the untiring efforts of Edward J. Twin."

■ Effective Oct. 20, **Louise Arnold, Ph.D.**, was named director of the University of Missouri-Kansas City School of Medicine's Office of Medical Education, and Research, succeeding **Roberta Epstein, Ph.D.** Dr. Arnold, who previously was director of the school's Research in Medical Education (RIME) group, will continue to be responsible for RIME, in addition to her OME activities. A 12-year medical-school staff member, Dr. Epstein was honored at an Oct. 15 farewell reception, where **Dean Harry S. Jonas, M.D.**, presented her with a chair for her many years of service.

■ Effective Oct. 1, **William Robinson, M.D.**, was named chairman of the Emergency Medicine Department at Truman Medical Center and the University of Missouri-Kansas City School of Medicine. Dr. Robinson, a long-time department member, formerly was vice chairman and in charge of the department's education program. He succeeds **Kendall W. McNabney, M.D.,** who chose to pursue other medical interests in TMC's Department of Surgery.

■ **Dean Harry S. Jonas, M.D.,** presented **Chandler Smith, M.D.,** recently retired chairman of the Department of Pathology of Truman Medical Center and UMKC School of Medicine with a chair at an Oct. 2 reception in his honor. "One phrase describes Chandler Smith better than any other," Dean Jonas said, "and that is a gentleman and a scholar. His contributions to teaching medical students will remain one of the significant ones in the first decade of the medical school."

■ A contingent of approximately 25 faculty and staff members from the University of Missouri-Kansas City School of Medicine attended the 1986 annual convention of the Association of American Medical Colleges (AAMC) in New Orleans. Members of the group were authors of a half-dozen poster sessions in addition to participating in numerous professional seminars and workshops.

■ Students from the University of Missouri-Kansas City School of Medicine remained active in community efforts this fall. Among their projects were speaking on health issues at area high schools, a successful blood drive, and pre-camp physical examinations at the City Union Mission.

■ Two staff positions were recently filled at UMKC School of Medicine. Effective Oct. 1, **Ms. Ruth M. Shipley** was named clinical medical librarian, a concept that involves "taking a librarian to the doctor." On student rounds, clinical librarians provide and anticipate literature and other information needs. The concept was originated at UMKC, and is being used across the country. Ms. Shipley most recently was a science librarian for Juniata College's L.A. Beeghly Library in Huntingdon, Penn. She has masters' degrees in both Library Science and Biochemistry, and a Bachelor of Arts in Biology.

In addition, **Ms. Mary Jo Grimm** joined the School of Medicine's staff for Year 1 and 2 students as docent team assistant. Ms. Grimm has a Bachelor of Science in Journalism/Public Relations from Ball State University, Muncie, Ind. She has spent the past year as a staff member in the School of Medicine's Dean's office.

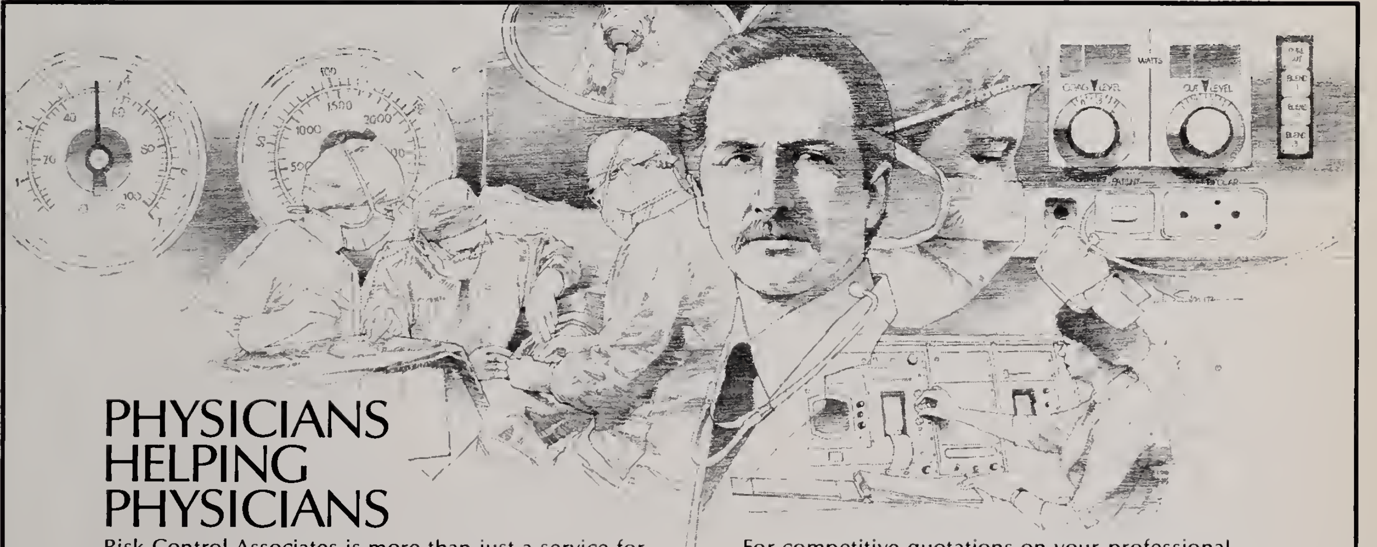
■ Practice Management

Continued from page 785

- Reduced incoming calls generally.
- Less arguing with patients.

One medical office manager told me that practice information booklets reduced the "noise and anger" index by a factor of 30%. I think this statement best describes the pluses of a practice information booklet.

If you would like some examples of patient information booklets being used by physicians, I will be glad to send them to you if you would write me in care of Missouri Medicine, P.O. Box 1028, Jefferson City, MO 65102. ■



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References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

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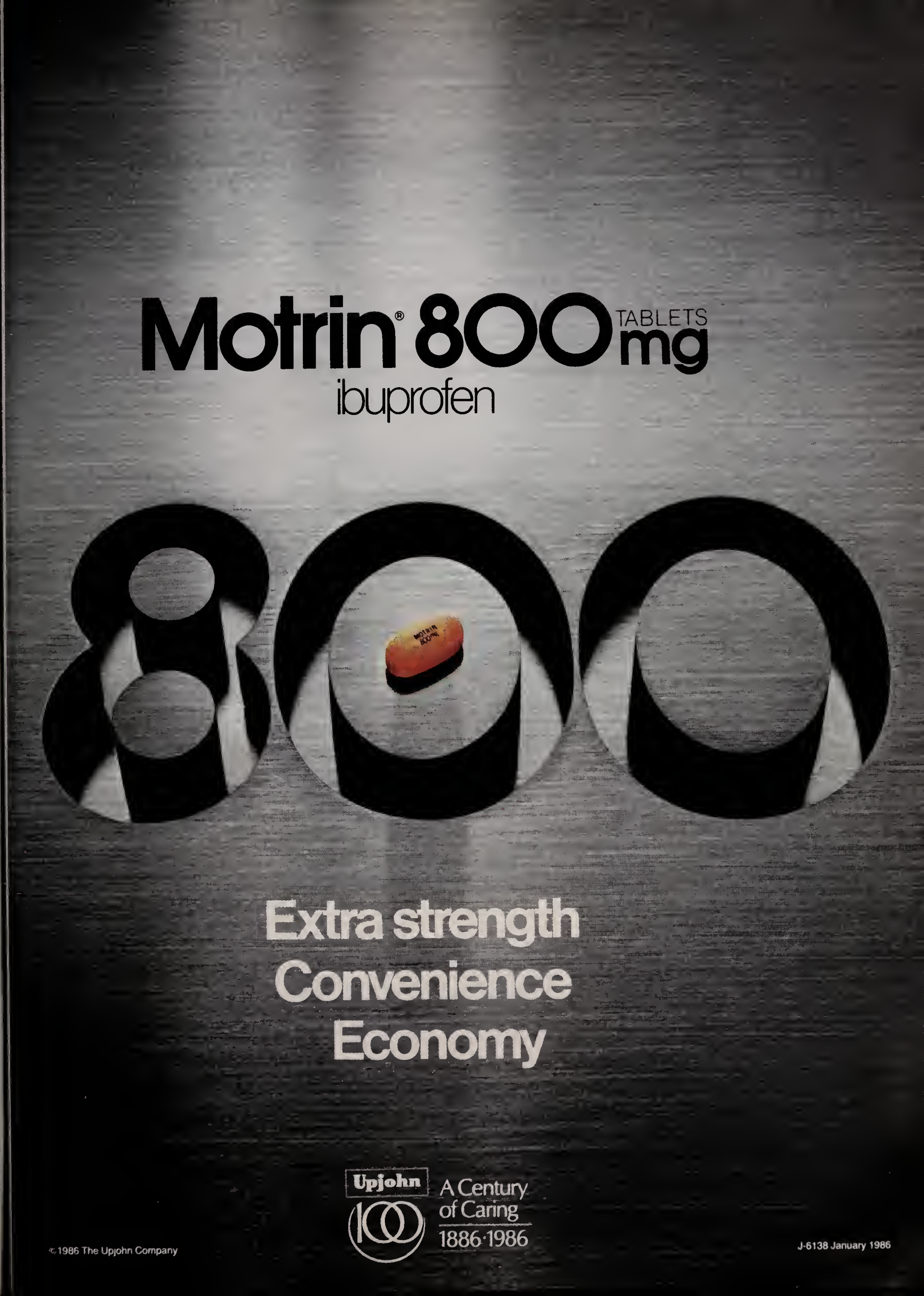
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* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired**. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy**. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

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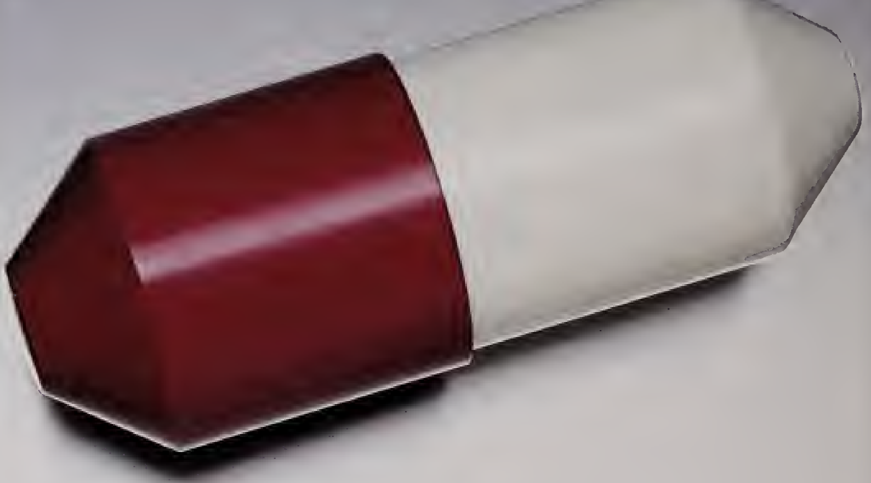

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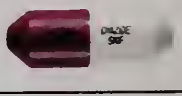

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December

11-12 **Special Workshop on the Use of the CO_2 Laser in ENT Surgery** — Location: Sudler Hall, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.A., Office of Continuing Education, University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4488.

12-13 **Low Back and Sciatic Pain: Evaluation and Treatment** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, CME Office, Box 8063, 660 South Euclid, St. Louis, MO 63110. 314/362-6893.

January 1987

4-9 **Practical Rheumatology for the Primary Care Physician** — Location: Keystone, Colorado. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

13-19 **Bone Health: Endocrinological, Rheumatological, and Nutritional Aspects** — Location: Las Brisas, Acapulco, Mexico. Contact Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110.

17 **Ventricular Arrhythmia: Update 1987** — Location: Adam's Mark Hotel, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

21 **Cancer of the Prostate Gland** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

February

4-6 **Seventh National Conference on CAPD** — Location: Westin Crown Center, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Cutaneous Signs of Malignancy** — Location: Brown Room, Jewish Hospital, St. Louis. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

28-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

18 **Reconstructive Surgery for Patients with Cancer of the Head and Neck** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: Fransisco Lounge, Student Center, University of Kansas Medical Center. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

April

3-4 **American Society for Microbiology** — Location: Breckenridge on the Lake, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

10-12 **New Technology in the Management of Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

29-May 2 **Surgery of the Spine: State of the Art** — Location Marriott's Pavillion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

June

17 **Neuroendocrine Tumors: Pathologic and Clinical Characteristics** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

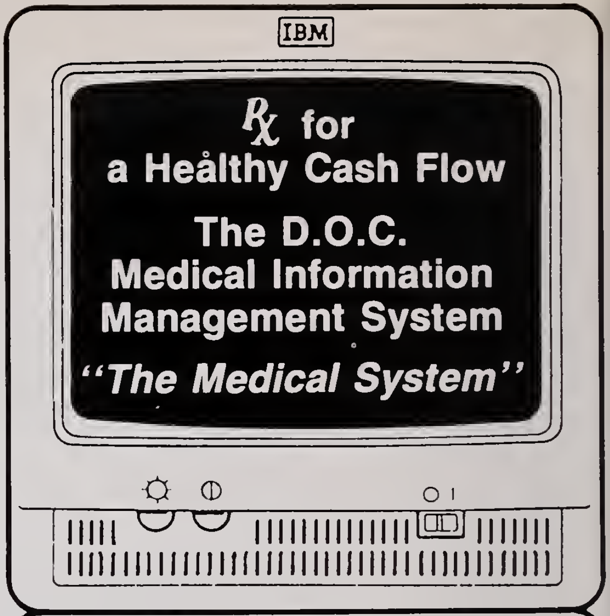
October

3-4 **Infectious Disease Update 1987** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

22-23 **Chronic Obstructive Pulmonary Disease Update** — Location: Columbia Hilton Inn, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

December

7-8 **33rd Annual Urology Seminar** — Location: Hyatt Regency Hotal, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.



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This Date in Medical History

DECEMBER

Compiled by Pasquale Accardo, M.D.
St. Louis

1

1712 Patrick Blair (c.1665-1728) is elected a Fellow of the Royal Society on the basis of his dissection of an elephant. In 1717 he wrote one of the earliest descriptions of pyloric stenosis.

1789 William Carr Lane, American physician, first mayor of St. Louis, is born.

2

1952 Childbirth is publicly televised.

1982 First mechanical heart is successfully transplanted into a patient, Barney Clark.

3

1967 Dr. Christiaan Barnard, at Groote Schuur Hospital in Capetown, South Africa, performs the first successful heart transplant from Denise Darvali to Louis Washkansky.

1910 Mary Baker Eddy, the founder of Christian Science, is born.

4

1857 American naval surgeon Edward Robinson Squibb resigns to set up a reliable source of supply for drugs that the military will need for the coming war between the states.

1983 Jaime Lusinchi, a pediatrician, is elected president of Venezuela.

7

1905 Edouard Zirm, German surgeon, performs the first successful corneal transplant on Alois Glogar.

1967 Adrian Kantrowitz performs the first American heart transplant.

1847 Robert Liston, Scottish surgeon, inventor of Liston's bone forceps, dies. He had a reputation for speed in preanesthetic surgery and was the first British surgeon to use ether.

11

1844 Dr. Gardner Q. Colton administers nitrous oxide to Dr. Horace Wells and Dr. John Mankey Riggs then painlessly extracts a tooth.

12

1889 George Washington Corner, American anatomist and embryologist who identified progesterone, is born.

13

1977 The World Health Organization reports the eradication of lethal smallpox.

19

1846 Dentist James Robinson performs the first dental extraction under anesthesia in Britain on Miss Lonsdale while ether is administered by Dr. Francis Boott. Miss Lonsdale experienced a "heavenly dream."

1819 St. Julien Ravenal, American physician, Confederate surgeon, agricultural chemist, is born. He designed the torpedo cigarboat "Little David" which had an encounter with "Old Ironsides." He developed ammoniated and acid fertilizers and discovered that leguminous plants could restore worn-out soil.

20

1932 The first antibiotic Prontosil is discovered by Gerhard Domagk of I.G. Farben.

21

1846 Robert Liston, who could amputate a leg in under 150 seconds, amputates the putrescent thigh of James Churchill in the first operation performed under anesthesia in Europe. Pre: "We are going to try a Yankee dodge today, gentlemen, for making men insensible." Post: "This Yankee dodge, gentlemen, beats mesmerism hollow."

1967 Louis Washkansky, first human heart transplant subject, dies.

23

1620 Johann Jakob Wepfer, Swiss physician and anatomist who was the first to inject blood vessels with colored liquids for the purpose of demonstration is born. His *Observationes anatomiae ex cadaveribus eorum quos sustulit apoplexia* (1658) revealed the etiological association between cerebral hemorrhage and apoplexy.

24

1298 Theodoric of Lucca (Teodorico Borgognoni, Theodoricus Cerviensis), Italian physician, Bishop Bitonto, then of Cervica, dies. A Dominican priest whose father was a surgeon to the Crusaders, he was a forerunner of antisepsis and anesthesia. He followed Aristotle (and the Chinese) and used urine to clean wounds; he also employed soporific sponges drenched with narcotics such as opium and mandragora.

25

1809 Dr. Ephraim McDowell, pioneer abdominal surgeon, removes an ovarian cyst from Jane Todd Crawford (cousin to Mary Todd) whom he had diagnosed on December 13, 1809 — "A daring man and a courageous woman coming together to settle a problem." He was the mythic "doctor on horseback," and legend has it that while the operation was being performed in Danville, Kentucky, a noose was slung over a tree for Mrs. Crawford's murderer.

28

1895 The first clinical X-ray of a gunshot wound is performed by Franz Exner of Vienna.

29

1750 Drs. John Williams and Parker Bennet of Kingston Jamaica, duel to the death in a dispute as to the nature of "bilious fever." Williams had served as surgeon on slave ships in Africa and the West Indies and correctly distinguished yellow fever from malaria.

1863 Wilhelm His, Jr., Swiss anatomist who described the atrioventricular bundles of fibers named for him, is born.

1919 William Osler, Canadian physician, founder and patron saint of Johns Hopkins Hospital, dies. "Varicose veins are the result of an improper selection of grandparents."

S097 014

EXCERPTS FROM A SYMPOSIUM
"THE TREATMENT OF SLEEP DISORDERS"[8]

"...highly effective for both sleep induction and sleep maintenance"

Sleep Laboratory Investigator
Pennsylvania

"...onset of action is rapid...provides sleep with no rebound effect to agitate the patient the following day"

Psychiatrist
California

"...appears to have the best safety record of any of the benzodiazepines"

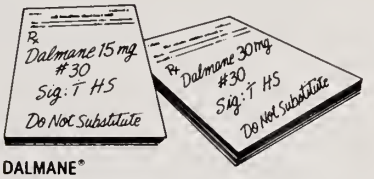
Psychiatrist
California

After 15 years, the experts still concur about the continuing value of Dalmane (flurazepam HCl/Roche). It provides sleep that satisfies patients... and the wide margin of safety that satisfies you.

The recommended dose in elderly or debilitated patients is 15 mg. Contraindicated in pregnancy.

DALMANE®
brand of
flurazepam HCl/Roche Ⓒ
sleep that satisfies
15-mg/30-mg
capsules

References: **1.** Kales J, *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A, *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A, *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Dement WC, *et al*: *Behav Med*, pp. 25-31, Oct 1978. **7.** Kales A, Kales JD: *J Clin Psychopharmacol 3*:140-150, Apr 1983. **8.** Tennant FS, *et al*: Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984 **9.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977.



DALMANE®
brand of
flurazepam HCl/Roche Ⓒ

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

ROCHE®
Roche Products Inc.
Manati, Puerto Rico 00701

#1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.[1-8] And *you're* satisfied by the exceptionally wide margin of safety.[7-9] As always, caution patients about driving or drinking alcohol.

Please see adjacent page for references and summary of product information.

DALMANE®

brand of
flurazepam HCl/Roche Ⓘⓥ
sleep that satisfies

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